UC-ST

Smart*Touch*®
Scale/Printer
Service Manual

64056469.R07

METTLER TOLEDO®

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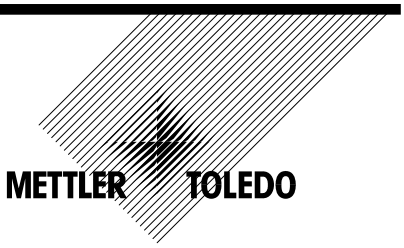

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METTLER TOLEDO Model UC-ST Service Manual 64056469

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Declaration of Conformance to SMA Standard Production Meets Type

(Year of Declaration 2003)

We the manufacturer of

Model	Certificate and Number	Issued by
UC-ST	02-127A1	NCWM

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.

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METTLER TOLEDO, Training Dept., 1900 Polaris Parkway, Columbus, Ohio 43240

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

Part Number	Date	Revisions
17035400A	**02/04**	New Manual
	06/04	Add Dead Deck to page 1-1, 1-2.
A17035400A	**09/05**	Updates to hardware and add COOL information.
64056469	**05/06**	Updates to screen shots; System Mgt and Wireless functions added; label format examples removed
64056469 Rev 01	**10/06**	Corrected illustration on connector. Chapter 4, page 10
64056469 Rev 02	**04/07**	Changed Load Cells section; CCFT repair instructions, Operator Display Repair
64056469 Rev 03	**06/07**	Changes to Power Supply section
64056469 Rev 04	**08/07**	New features added to System Configuration, Network Configuration, and Change Time/Date.
64056469 Rev 05	**12/07**	Updates to 8270 jumpers and external load cell parts
64056469 Rev 06	**04/08**	Added Power Requirements(2-3); Updated IF info (4-20)
64056469 Rev 07	**02/09**	GUI updates described

METTLER TOLEDO® reserves the right to make refinements or changes without notice.

Disposal

In conformance with the European Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE) this device may not be disposed of in domestic waste. This also applies to countries outside the EU, per their specific requirements.

Please dispose of this product in accordance with local regulations at the collecting point specified for electrical and electronic equipment.

If you have any questions, please contact the responsible authority or the distributor from which you purchased this device.

Should this device be passed on to other parties (for private or professional use), the content of this regulation must also be related.

Thank you for your contribution to environmental protection.

Replacement Parts

For replacement parts information, refer to parts document 17080100A.

PRECAUTIONS

READ this manual BEFORE operating or servicing this equipment.

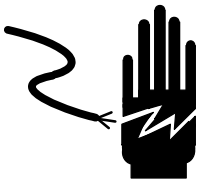
FOLLOW these instructions carefully.

SAVE this manual for future reference.

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

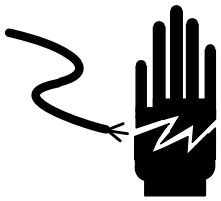
ALWAYS DISCONNECT this equipment from the power source before cleaning or performing maintenance.

CALL METTLER TOLEDO for parts, information, and service.



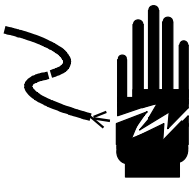
WARNING

Power outlets must be easily accessible and located no further than the length of the power cord supplied with the product. Failure to do so could result in result in personnel injury and/or property damage.



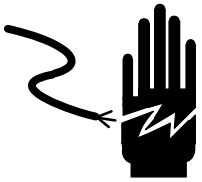
WARNING

ONLY PERMIT QUALIFIED PERSONNEL TO SERVICE THIS EQUIPMENT. EXERCISE CARE WHEN MAKING CHECKS, TESTS AND ADJUSTMENTS THAT MUST BE MADE WITH POWER ON. FAILING TO OBSERVE THESE PRECAUTIONS CAN RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE.



WARNING

FOR CONTINUED PROTECTION AGAINST SHOCK HAZARD CONNECT TO PROPERLY GROUNDED OUTLET ONLY. DO NOT REMOVE THE GROUND PRONG.



WARNING

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

CAUTION

BEFORE CONNECTING OR DISCONNECTING ANY INTERNAL ELECTRONIC COMPONENTS OR INTERCONNECTING WIRING BETWEEN ELECTRONIC EQUIPMENT, ALWAYS REMOVE POWER AND WAIT AT LEAST THIRTY (30) SECONDS BEFORE ANY CONNECTIONS OR DISCONNECTIONS ARE MADE. FAILURE TO OBSERVE THESE PRECAUTIONS COULD RESULT IN DAMAGE TO, OR DESTRUCTION OF THE EQUIPMENT OR BODILY HARM.

CAUTION

OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES.

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1 Introduction

General Description

The **Smart*Touch*®** Ethernet Master will be referred to in this manual as either **Smart*Touch*®** Ethernet Master or STEM. REM refers to the Rack Mount Ethernet Master.

The METTLER TOLEDO® Model UC-ST **Smart*Touch*®** is a digital scale with a built-in thermal label printer. The UC-ST can be operated in a standalone mode with a local database or connected to a REM or STEM through an Ethernet network using TCP/IP protocol.

The Model 8270 scale can be used for remote weight input on the Dead Deck version (with optional I/F Kit). The Model UC-ST internal scale weighting capacity is 30 x. 0.01 lb U.S., or 15 x 0.005 kg, or dual internal scale capacity 6 x .002/15 x .005 kg on export versions. When used with the Model 8270 Scale Base, the Model UC-ST can be calibrated for either 50 x 0.01 lb or 20 x 0.005 kg.

ISO 9001 certified

ISO9001

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.

Model UC-ST Counter Scale

Model UC-ST Dead Deck

Customer Display

The customer display is a 19-character vacuum-fluorescent dot matrix. Each character is made up of 5 x 7 dots with a comma, decimal point and cursor. Characters are 10.5 mm H x 6 mm W. The layout of the customer lens is shown below.

Customer Display Lens

Touchscreen

The operator Touchscreen consists of a 640x200 pixel LCD Screen and Keyboard.

Weighing Specifications

The scale can be calibrated in 30 x 0.01 lb or 15 x 0.005 kg weighing modes. The built-in scale is designed to withstand **static** overloads up to five times the rated capacity without sustaining permanent damage. When a Model UC-ST Dead Deck (unit without load cell/spider/platter installed) is used with the Model 8270 Scale Base, the unit can be calibrated for either 50 x 0.01 lb or 20 x 0.005 kg. A weight greater than capacity plus 0.05 lb or 0.025 kg blanks the display and inhibits printing. If the scale is under zero by more than five increments, the weight field will display dashes (------). When zero cannot be captured, the weight field will display **EEEEEE**.

Tare is limited to a maximum of 30 lb or 9.995 kg.

Agency Approvals

The UC-ST is designed to meet the requirements of the following agencies:

UL	UL 60950-1 Information Technology.
CSA	CSA 22.2-60950-1 Information technology
NIST	NTEP requirements for Class III weight device. NTEP/California Electronic Cash Registers General Code Requirements.
FCC	Requirements for FCC Conducted Emissions and Radiated Emissions for a Class A device.
NTEP	A Certificate of Conformance, number 02-127A1 has been issued for the Model UC-ST.

Label Printer

The thermal label printer can use label sizes ranging from 1.5 to 7.9 inches, and continuous strip stock. Labels can be loaded in a stripped mode where labels automatically peel from the liner, or in unstripped mode where the label and liner are delivered. When using continuous stock, the tear/stripper bar can be used to tear to the exact length needed. Print specifications for the thermal printer are as follows:

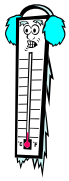
PRINTHEAD TYPE: Thermal Printhead, 3 in/72 mm wide

DOT DENSITY: 8 Dots/mm

PRINT SPEED: 125 mm/sec

Note: the Speed/Power setting depends on the quality of the label stock for optimum printing.

Operating/Storage Temperature



Operating Range: 0ºC to 40ºC (32ºF to 104ºF), humidity from 5% to 95% non-condensing.

Storage Range: -10ºC to 70ºC (14ºF to 158ºF), with humidity from 5% to 95% non-condensing.

Memory

The UC-ST is available with 4 MB or 8 MB battery-backed RAM Memory PCB's used for record storage. The alkaline battery is not recharged on the PCB. Size requirements can be computed using the following record size specifications.

- Each PLU record uses 330 bytes.
- Extra Text uses up to 3240 bytes (not including 13 bytes overhead). The extra text formula is: *(Lines x #characters per line)+ 13= #bytes required*. For example: 10 lines x 42 char/line +13 = 433 bytes per record. (60 lines max.)
- Nutrifact records use 393 bytes per record.
- Graphics can be up to 6k per record.

For example:

1000 PLU records:	330k
1000 ET records:	433k
1000 NF records:	393k
100 Graphics:	600k
Total	1,756k (approximately 1.7 MEG)

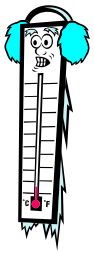
METTLER TOLEDO

For your notes

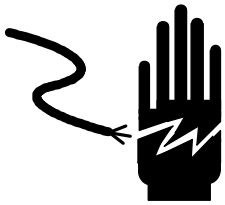
2 Installation

Installation Overview

Note: If you choose to dispose of the package, please recycle the materials. The packaging is recyclable natural fiber with biodegradable adhesives.



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.



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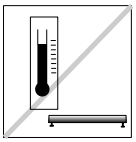
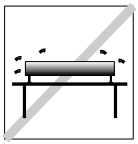
CAUTION

OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES.

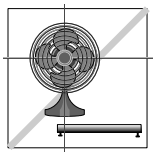
If the scale has been stored or transported in below freezing temperatures, allow the unit to warm up to room temperature before turning on AC power. After warming to room temperature, connect the power cord to the AC jack, then connect the power cord to the AC outlet. Set the power switch to the ON position. Allow at least 30 minutes warm-up time before initial calibration.



Maintain an operating temperature range of +10° C to +40° C (50° F to 104° F). Avoid areas where the temperature changes rapidly.



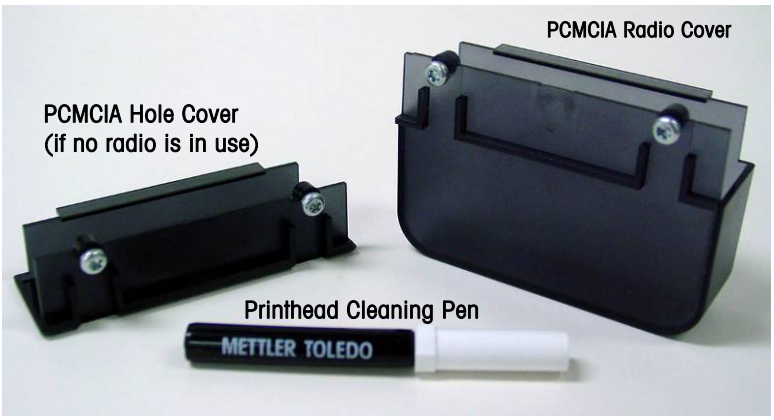
Select a firm, level, and vibration-free surface on which to place the scale.



Avoid excessive drafts, such as from fans and open windows.

Accessories

The UC-ST is shipped with a User's Guide and the following accessories.



Accessories shipped with UC-ST

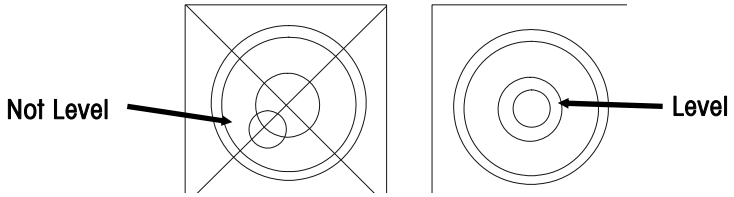
Labels

The UC-ST can use label sizes ranging from 1.5 to 7.9 inches, and continuous strip stock. At time of installation, it is recommended that the Take Label Sensor is calibrated on site using the labels that will be used in the printer. Refer to Chapter 3, Unit Setup, Calibration Menu for details on the function "Calibrate Take Label Sensor".

First, make sure the labels are loaded properly and are indexing correctly. If not, check the default label size in the Printer Setup section. If the labels are correctly indexed (label not protruding from the stripper bar), touch Calibrate Take Label Sensor, then Enter to set the Take Label Sensor threshold values. Two labels will feed and the value for the sensor is set automatically. If the unit is moved or label types have changed and you are experiencing any take label errors, redo this calibration.

Leveling the Scale

- Turn the leveling feet on the scale base until the scale is level horizontally. The leveling feet should each touch the surface on which the scale base is placed. The base must be stable and should not rock.
- Check to make sure the level bubble (located on the top of the base underneath the platter) is centered as shown here.



- You must re-level the scale after every location change.

Power Requirements

This scale power requires 100-240 VAC, 50/60 Hz, 2.2A. Wiring is to include a proper ground. The integrity of the power ground for equipment is important for both safety and dependable operation of the electronic device. A poor ground can result in an unsafe condition should an electrical short develop in the equipment.

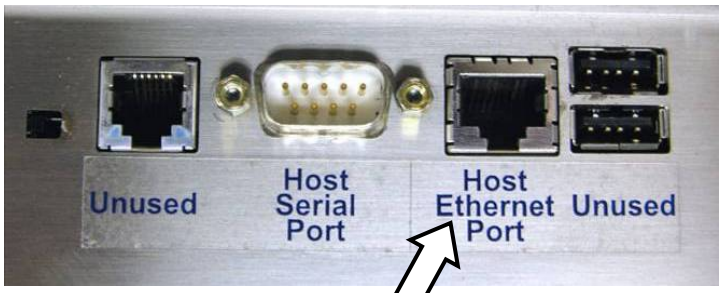
A good ground connection minimizes extraneous electrical noise pulses. The electronic device should not share power lines with noise-generating equipment. Examples include electrical motors, compressors, heating elements, lights, and relays that may generate noise spikes and power surges. To confirm ground integrity, use a commercial branch circuit analyzer or grounded outlet tester. If adverse power conditions exist, a dedicated power circuit or power line conditioner might be required.

Ethernet Network Cabling Systems

METTLER TOLEDO® Ethernet scales require UTP (Unshielded Twisted Pair) **10BASE-T** cables, **Category 5** (CAT 5) or higher, wired in a **Star topology**. Each node on the 10BASE-T network has its own cable that connects to a common hub. The cable from the node to the hub (segment) can be up to 100 meters (328 feet) in length. The hub serves as a central switching station that controls the incoming and outgoing signals. When using star topology if a station goes down it does not affect the rest of the network. Typically an RJ45 connector is connected to UTP cabling and is run straight from the hub to the device on the network.

The following basic rules apply to a 10BASE-T network.

- Maximum length per 10BASE-T segment is 100 meters or 328 feet.
- Maximum of two devices per segment; one is the scale and the other is the hub.
- Maximum of four hubs can be connected without using a bridge or switch. (Consult the hub vendor for specifications.)
- 10Base-T Hubs can connect to fiber optic 10BASE-FL or to 10BASE-2 or 10BASe-5 coax networks that can be used to extend the distance of the network. Special hubs will be needed for this application.
- UTP (Unshielded Twisted Pair) cable. Category 5 or higher is recommended.
- UTP cabling is not recommended for areas with high electromagnetic or radio frequency interference (EMI/RFI).



UC RJ45 10BaseT Ethernet Connector

Patch Cables

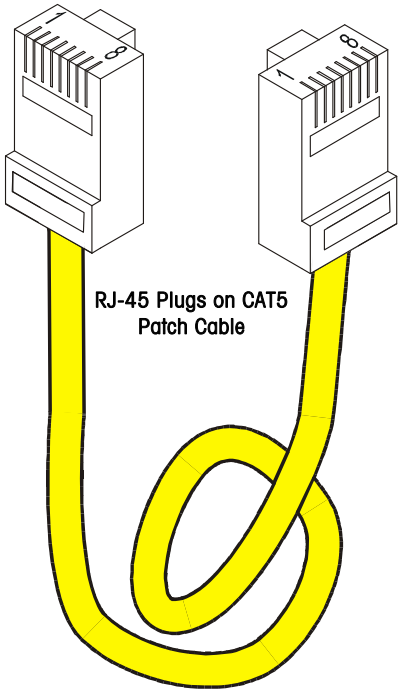
10BASE-T Straight-Through Patch Cable

Patch cables connect devices to hubs. METTLER TOLEDO® Ethernet scales require a CAT5 (Category 5) 10BASE-T UTP Straight-Through Patch Cable conforming to the EIA standard 568A or 568B. The only difference between 568A and 568B is the color code positions (green and orange wires are swapped). It is best not to mix 568A and 568B cables in a system to avoid confusion with the color codes (however, complete cables of both types will interchange). 10BASE-T segments are limited to 328 feet (100 m). The CAT5 Straight-Through Patch Cable has four pairs of wires connecting to the same pins on both ends of an RJ-45 connector. Pairs 2 and 3 are used for the 10BASE-T signals, as shown below.

Pin connections for 568A and 568B cables.

	Plug A	Color Code 568A	Color Code 568B	Plug B
Pair 3	1 - TD+	White/Green	White/Orange	1 - TD+
	2 - TD-	Green	Orange	2 - TD-
Pair 2	3 - RD+	White/Orange	White/Green	3 - RD+
Pair 1	4 - Not Used	Blue	Blue	4 - Not Used
	5 - Not Used	White/Blue	White/Blue	5 - Not Used
	6 - RD-	Orange	Green	6 - RD-
Pair 4	7 - Not Used	White/Brown	White/Brown	7 - Not Used
	8 - Not Used	Brown	Brown	8 - Not Used

Straight Through 10BASE-T Patch Cable



RJ-45 Plugs on CAT5 Patch Cable

IP Address

Note: Do not duplicate any IP numbers on the network.

The UC scale can have a Static IP Address (fixed) or use DHCP (Automatic) to automatically obtain an address from the server. If a DHCP server is not available (such as when using a local network), the IP address must be Static.

The IP numbers are used to identify each of the devices on the network. The numbers must be unique on the network (no duplicates). If the network is separate or isolated from any other networks, the IP address can be any address other than 0.0.0.0 and 255. 255. 255. 255. If the unit is installed on an existing network, the network manager should supply the IP address.

Local Networks

When connecting Ethernet scales to a local Ethernet network (not on the Internet, etc.), arbitrary numbers can be selected for the IP Addresses. The IP Address consists of a group of four numbers from 0 to 255, separated by periods, for example: 207.142.140.101. Do not duplicate any numbers on the network.

Subnet Mask

A subnet mask is used with an IP address to subdivide a network into smaller networks, allowing a greater number of nodes on a network with a single IP address. The Subnet Mask is the part of the IP address used to represent a sub network within a logical network. By using Subnet Masks, network address space is available that would normally be unavailable. Subnet Masks also ensure broadcasts are not sent to the whole network unless intended.

The default Subnet Mask, 255.255.255.0, is recommended to reduce network traffic. When Subnet Mask, 255.255.255.0 is used, the broadcast range would be the local subnet only as follows:

255.255.255.0 Subnet Mask
207.142.140.XXX IP Address with a broadcast range of XXX.

255.255.0.0 Subnet Mask
207.142.XXX.XXX IP Address with a broadcast range of XXX.XXX

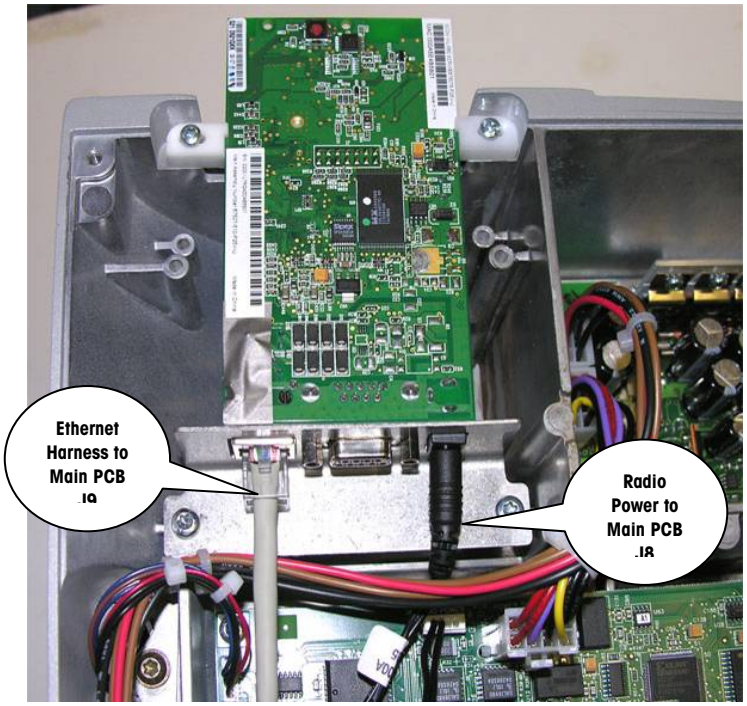
Using the Subnet Mask, 255.255.255.0, improves network performance by reducing broadcast traffic.

Router (Default Gateway)

If the server is on a different network (see Subnet Mask), the client will access the server by routing the request to the Default Gateway IP Address. The Gateway will route the request to other devices on the network to deliver the request to the server. The requested data from the server will then be routed through the Gateway to the requesting client. The Gateway must be on the same local network as the client.

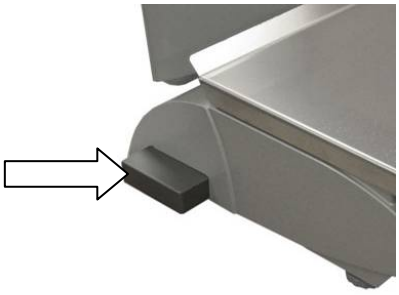
Wireless Adapter

Shown below is the optional WGB Wireless Card allowing the UC-ST to connect to 802.11a/b/g wireless networks.



Ethernet WGB Wireless Radio

The WGB Card comes with a plastic cover allowing the antenna to protrude beyond the metal case on the scale.

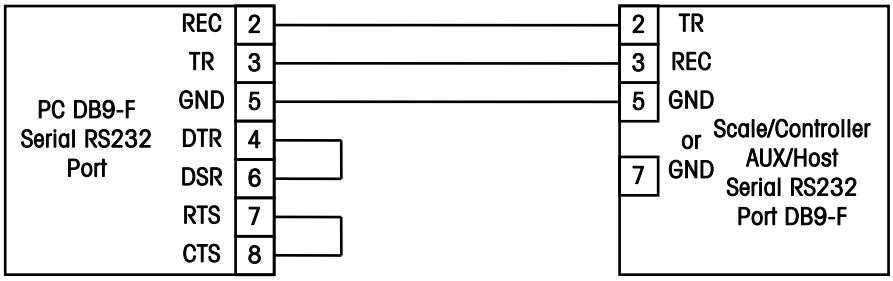


UC Shown with WGB Cover Installed

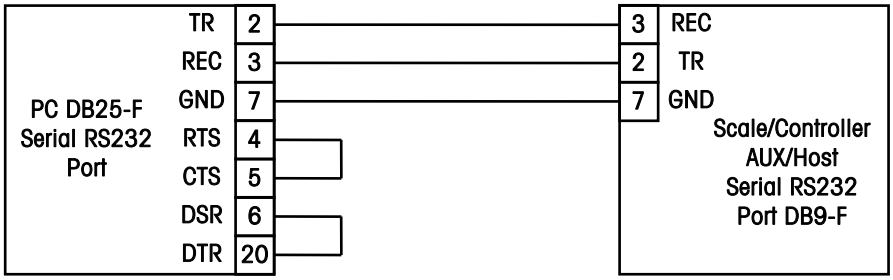
Serial Cables

A factory serial RS232 cable is available from METTLER TOLEDO. This cable or a straight through cable will work to connect the UC-ST to a standard 9-Pin PC Serial Port Connector.

0977-0141 Cable, PC DB9 to Scale 10 ft/3 m
0977-0142 Cable, PC DB9 to Scale 25 ft/7.62 m



Connection Diagram for a 25 Pin PC Serial Port Connection to the UC-ST Serial Port



Serial RS232 to Model UC-ST Cables

MT Scale Utility Program

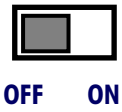
To backup or restore data to the UC-ST, a PC utility program is available from METTLER TOLEDO called WinDataback. This program replaces Databack and Flashpro. This program can be used to backup and restore configuration data (including custom labels, presets, etc.), download new operating system software, and set the Scale IP address. This program works on either serial or Ethernet connections.

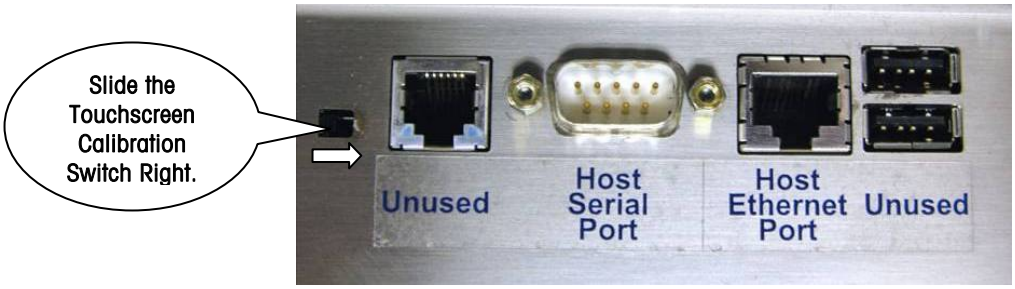
Touchscreen Calibration

If incorrect key entries appear while using the touchscreen, the touchscreen may need to be calibrated. To calibrate the touchscreen, follow this procedure.

You can either turn the scale power off to access calibration, or touch the help area in the upper left of the screen to access the contrast adjustment.

First, slide the Touchscreen Calibration switch on the connector panel to the right.

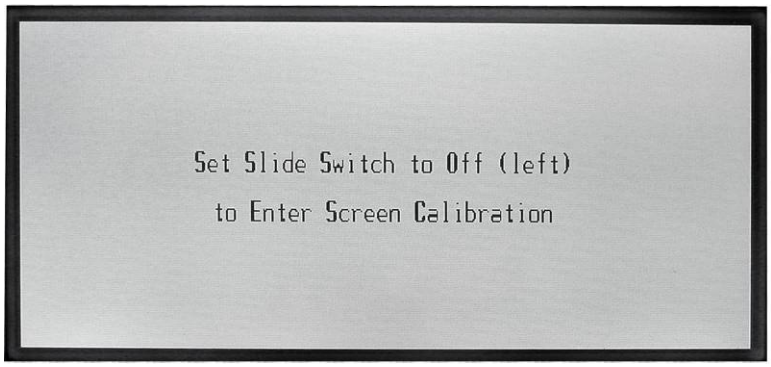




Touchscreen Calibration Switch Location on Connector Panel

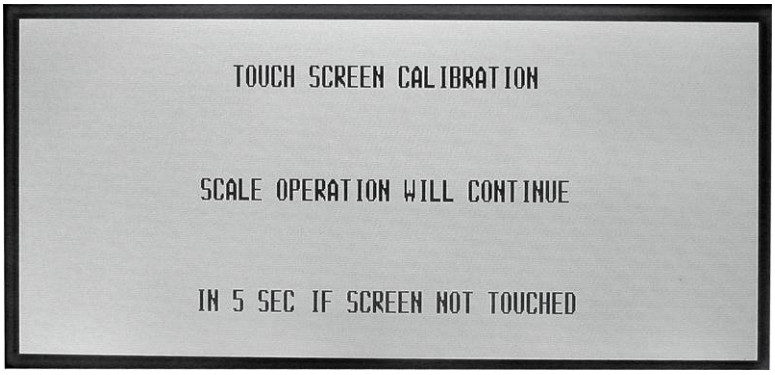
Next, turn the scale power off then back to on, or access the Adjust Contrast screen through the help menu.

You will be prompted to immediately set the slide switch back OFF to the left to enter Screen Calibration. If you wait too long to slide the switch back, the scale will return to the Adjust Contrast screen.



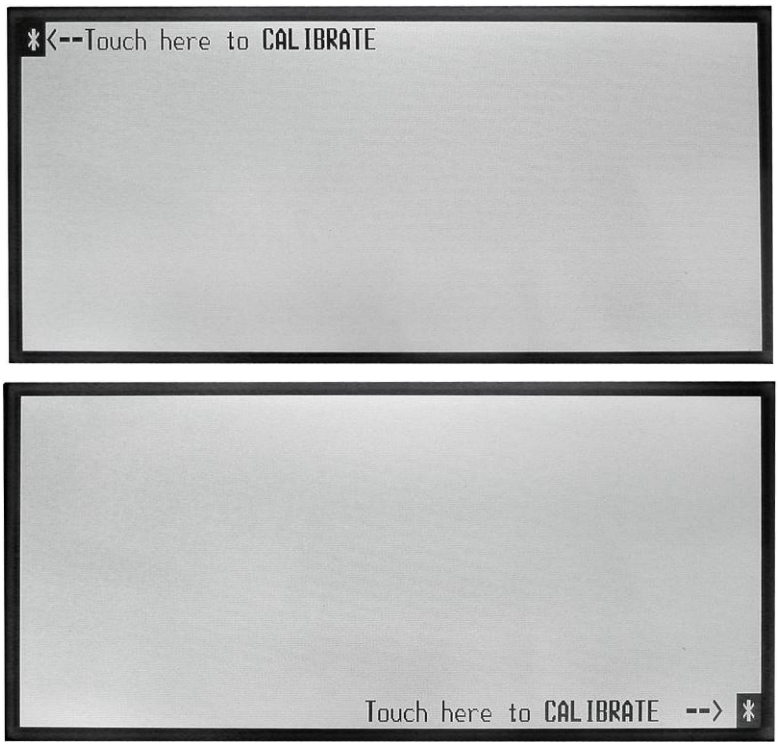
Prompt Screen To Enter Screen Calibration

Next you must touch the screen to verify entry into the calibration mode.



Verify Entry into Screen Calibration

After touching the screen the first calibration point will display in the upper left of the screen. Use your fingertip or a soft blunt object to touch the calibration points.



Calibration Points

You will be asked to touch the calibration points again for verification, after which you will be returned to the Adjust Contrast Screen.

METTLER TOLEDO

For your notes

3 Setup

Unit Setup

Touch the SETUP key to access the Unit Setup Screen (Figure 3-1).

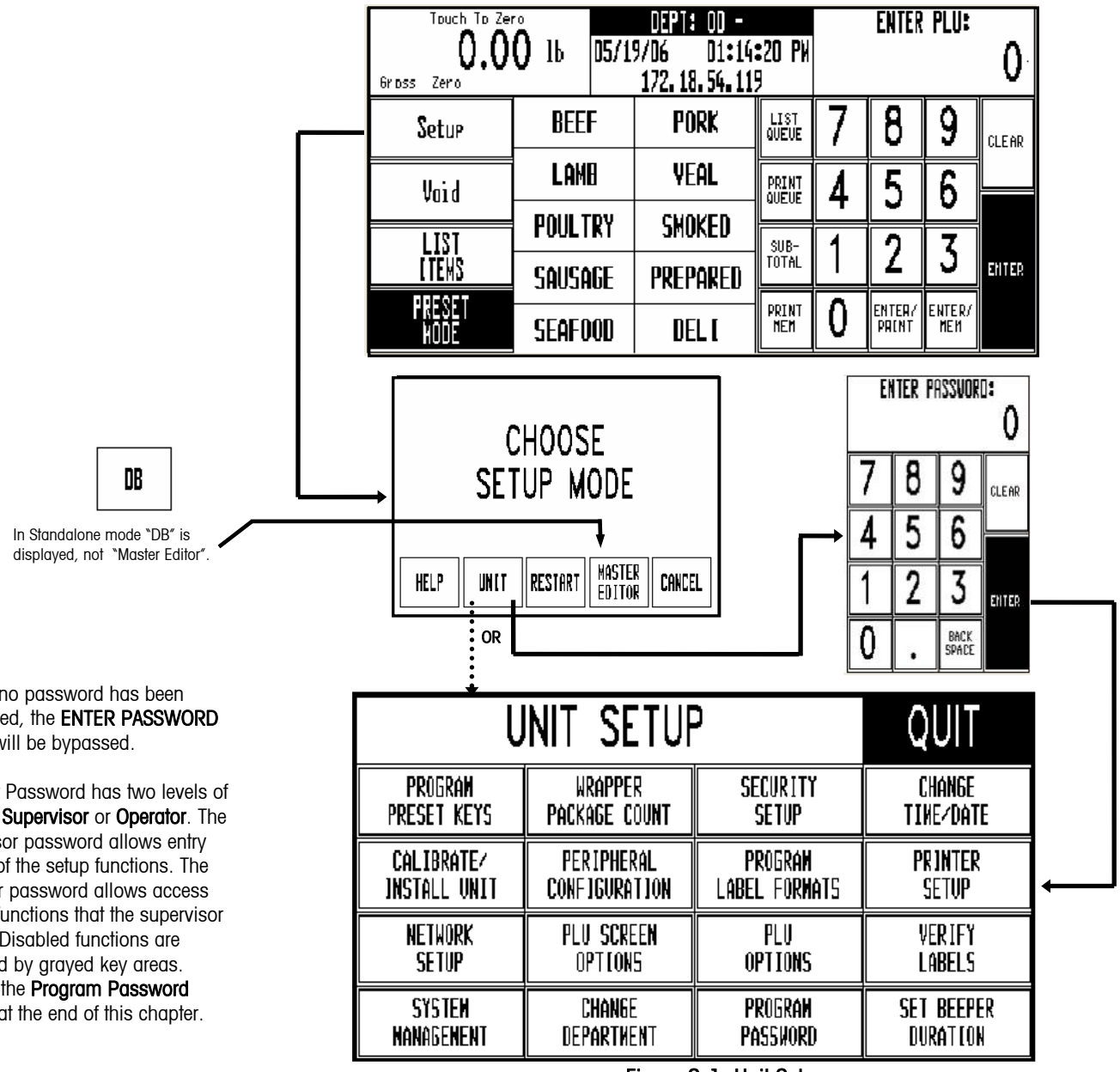


Figure 3-1: Unit Setup

Note: If no password has been configured, the **ENTER PASSWORD** screen will be bypassed.

The Unit Password has two levels of access: **Supervisor** or **Operator**. The supervisor password allows entry into all of the setup functions. The Operator password allows access only to functions that the supervisor allows. Disabled functions are indicated by grayed key areas. Refer to the **Program Password** section at the end of this chapter.

The following sections describe the different options available under Unit Setup.

Program Presets

Preset Keys allow calling a PLU record with one touch of a programmed key. From the Unit Setup screen, touch **PROGRAM PRESET KEYS** to bring up the **PRESET PAGES** edit screen. Each of the 10 pages can contain up to 35 preset keys for 350 presets.

Preset Page Name (Ex: Beef, Veal, Poultry, etc.)

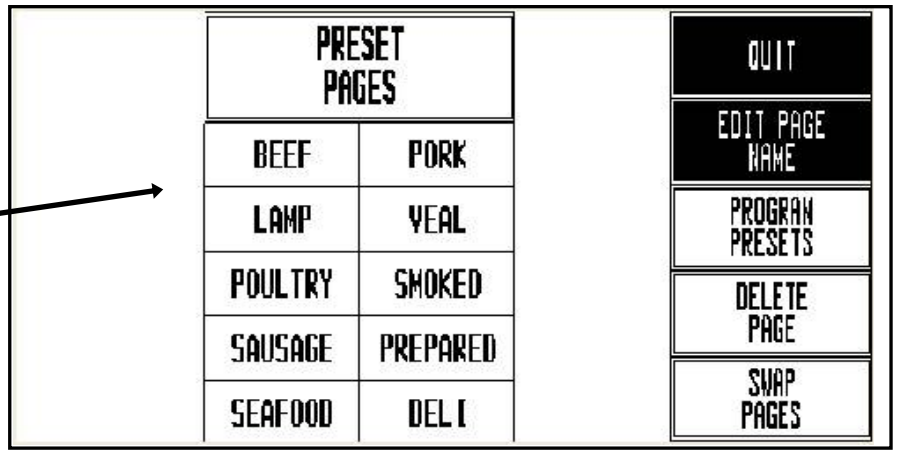


Figure 3-2: Program Presets Screen

To **delete** an entire Preset Page, touch the DELETE PAGE key, and then touch the page you wish to delete. Complete or cancel the deletion as prompted.

To **swap** preset page key positions, touch the SWAP PAGES key, and then touch the first key you want to swap followed by the second key you want to swap.

To **edit** the page name, touch EDIT PAGE NAME, and then touch the key you wish to edit. Type the name you wish to appear on key. Use the BACKSPACE key to delete existing characters, or SHIFT BACKSPACE to delete a complete line. One line of 7-8 large characters or two lines of 10 characters can be displayed. To move to the second line, touch NEW LINE.

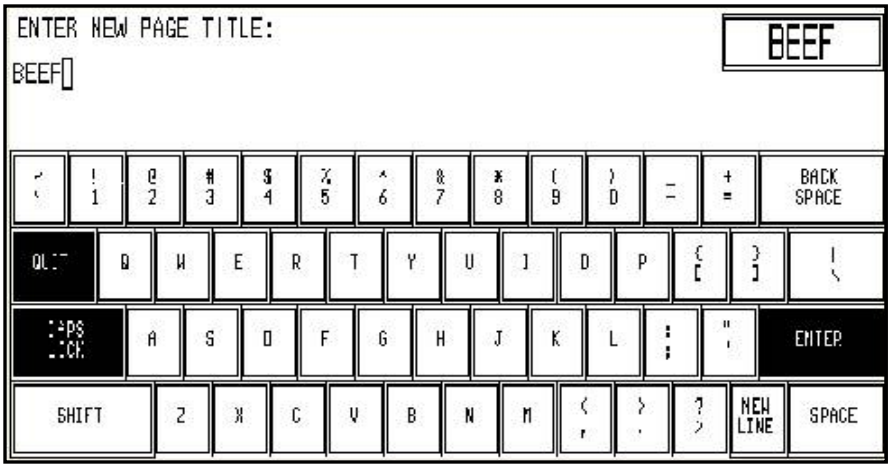


Figure 3-3: Keyboard to edit Preset Page Names

To **program** PLUs into a page, touch **PROGRAM PRESETS**, and then touch one of the ten preset page keys (Figure 3-2). The Preset Menu shown below will then appear.

Touch the department box to select a new department.

Touch **EDIT**, the touch an existing preset key to edit it or touch an empty preset key to add a new one.

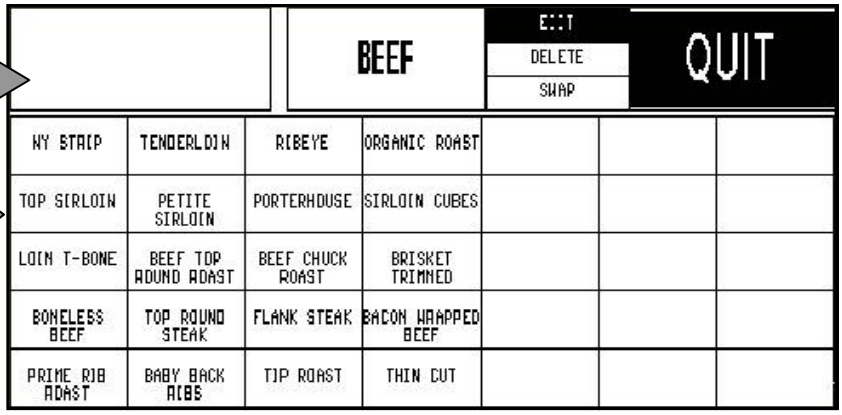


Figure 3-4: Program Presets Menu

To change the **department** that you are selecting PLUs from, touch the DEPARTMENT box (upper left corner). A list of the departments with descriptions will display. Page through the list to find the desired department, and then touch the box to select it.

To **delete** an existing preset key, touch **DELETE** (at the top of the screen) followed by the preset key you wish to delete. Complete or cancel the deletion as prompted.

To **swap** the key locations of two preset keys on the preset page, touch SWAP (at the top of the screen), then touch the first key you want to swap followed by the second key you want to swap.

To **add** a new preset key or **edit** an existing preset key, press **EDIT** followed by the preset key you wish to program. Type in the **PLU number** or touch **LOOK-UP** to generate a list of PLU numbers from the current department. Page through the list of PLUs to locate the item and touch to select it.

The alphanumeric keyboard (below) will display, and the preset key description for the item will show in the upper left hand corner of the display. The second line of text in the left-hand corner is the description editor. On new preset keys, the preset key description will default to the PLU description.

The **BACKSPACE** key erases one character at a time, and **SHIFT BACKSPACE** erases the complete line. Up to three lines of 12 characters per line are allowed. Touch the **ENTER** key when you are finished. Changing the name of the Preset Key does not change the PLU Product Description or change any data in the database.

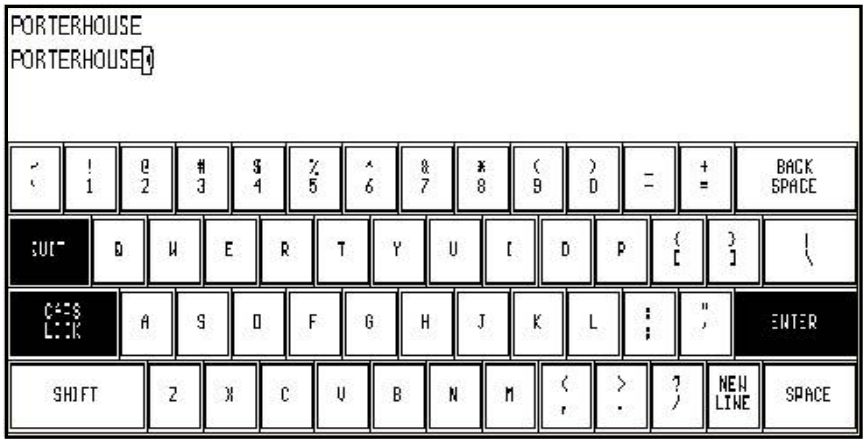


Figure 3-5: Keyboard to enter Preset Key Names

Set Preset Touch Reaction

PRESET TOUCH REACTION configures how the preset keys react when touched.

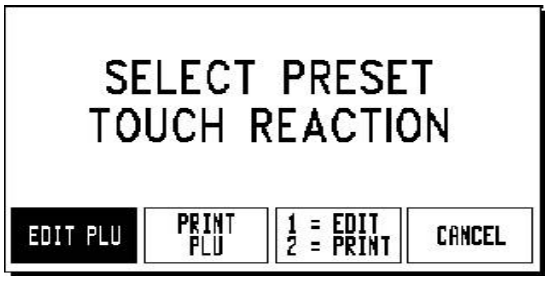


Figure 3-6: Preset Touch Reaction

EDIT PLU	When a preset key is touched the PLU Edit screen displays allowing the user to make changes before printing a label.
PRINT PLU	When a preset key is touched it will call the PLU and automatically print a label. The PLU Edit screen is bypassed.
1 = EDIT 2 = PRINT	Touch the preset key once to call the PLU and display the PLU Edit screen. Touch the preset key twice in rapid succession to bypass the PLU Edit screen and the print automatically.
CANCEL	Cancels operation and returns to the UNIT Setup screen.

Setup Marquee

From the Unit Setup screen, touch **SETUP MARQUEE** to display the Marquee Setup screen. The messages shown on the Marquee list will scroll on the customer display when the marquee is active. Any changes made at the unit will not affect the marquees stored in the master/server database. The marquee starts automatically if there is no activity on the unit after approximately 10 seconds. When the Touchscreen is touched, or if weight is added to the platter, the marquee will be suspended.

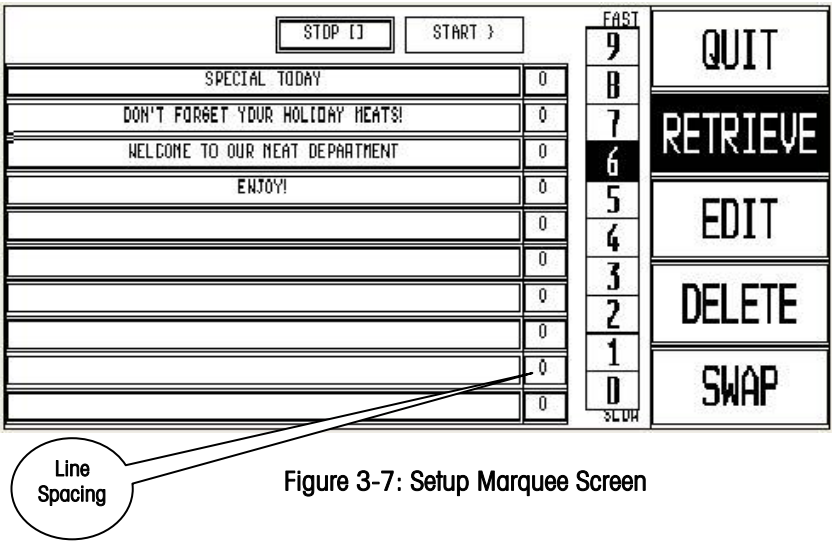


Figure 3-7: Setup Marquee Screen

Retrieve	Retrieves marquees from the master database. Touch RETRIEVE, and then touch any of the 10 boxes to the left. Touch the desired action code to select it. If no marquees (Type 3 Action codes) were located at the master, a blank list is displayed.
Edit	To edit or create a message, touch the EDIT key and marquee box you wish to edit.
Delete	To delete a message, touch the DELETE key followed by the marquee message you wish to delete.
Swap	To swap the position of a marquee with another, touch SWAP, touch the marquee to move, then touch the new location.
0-9	Scrolling speed. Change the number in the FAST/SLOW column by touching the desired speed 0-9 (0=Slow, 9=Fast).
Start/Stop	Starts or stops the marquee for testing purposes.
Line Spacing	Change the number of blank spaces between the messages.

Change Time/Date

From the Unit Setup screen, touch **CHANGE TIME/DATE** to bring up the Time and Date screen. To make changes, touch the appropriate menu option window and follow the instructions indicated below.

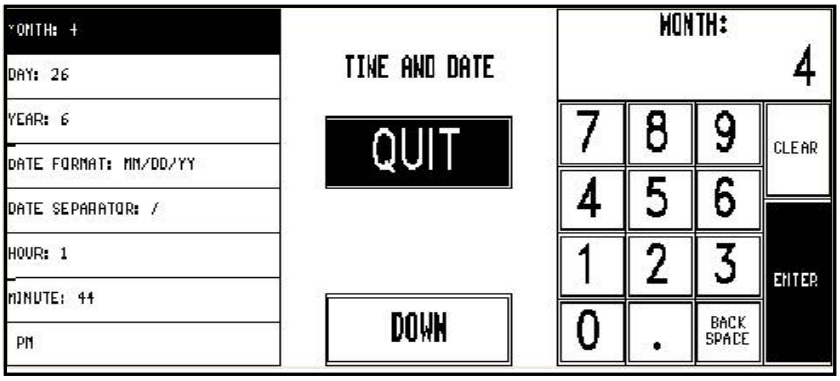
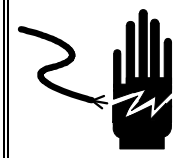


Figure 3-8: Change Time/Date

Month	Numeric month 1-12.
Day	Numeric day 1-31.
Year	Last two digits of the current year 00-99.
Date Format	Date format (MM/DD/YY, DD/MM/YY, YY/MM/DD, or YY/Mon/DD).
Date Separator	Select /, -, or .
Hour	Current hour (1-12) through the numeric keyboard.
Minute	Current minute (00 - 59) through the numeric keyboard.
PM/AM	Select AM or PM by touching the appropriate window.
Time Format	Select between12 or 24 hour formats.
NTP Server	Enter NTP Server IP
GMT Offset	± Hour offset from GMT
DST Offset	Number of minutes offest for the DST
Send Time & Date To Master	(Touch DOWN to display) Sends the time and date to a SmartTouch® master or STEM.
Sync From Master	If set to YES, the time will be obtained from the master when the UC-ST is powered up. Setting to NO will disable this function.
Use 2007 DST Rule:	YES/NO

Calibrate/Install Unit

Calibrate/Install is used to calibrate the scale, set the unit ID, configure currency, select PLU options, configure bar codes, and to initialize the unit.



WARNING

ONLY PERMIT QUALIFIED PERSONNEL TO SERVICE THIS EQUIPMENT. EXERCISE CARE WHEN MAKING CHECKS, TESTS AND ADJUSTMENTS THAT MUST BE MADE WITH POWER ON. FAILING TO OBSERVE THESE PRECAUTIONS CAN RESULT IN BODILY HARM.

From the Unit Setup Screen (shown in Figure 3-1), touch the CALIBRATE/INSTALL UNIT key then press the **CAL** switch, accessible after removing the access plate (Figure 3-9). The following sections explain the System Configuration Menu.

The Cal Switch can be pressed after removing the access plate.

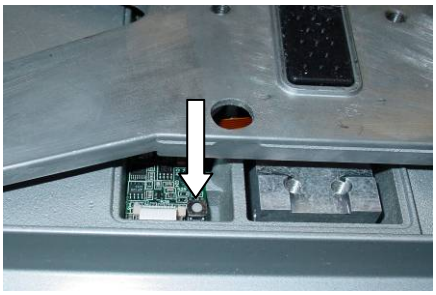
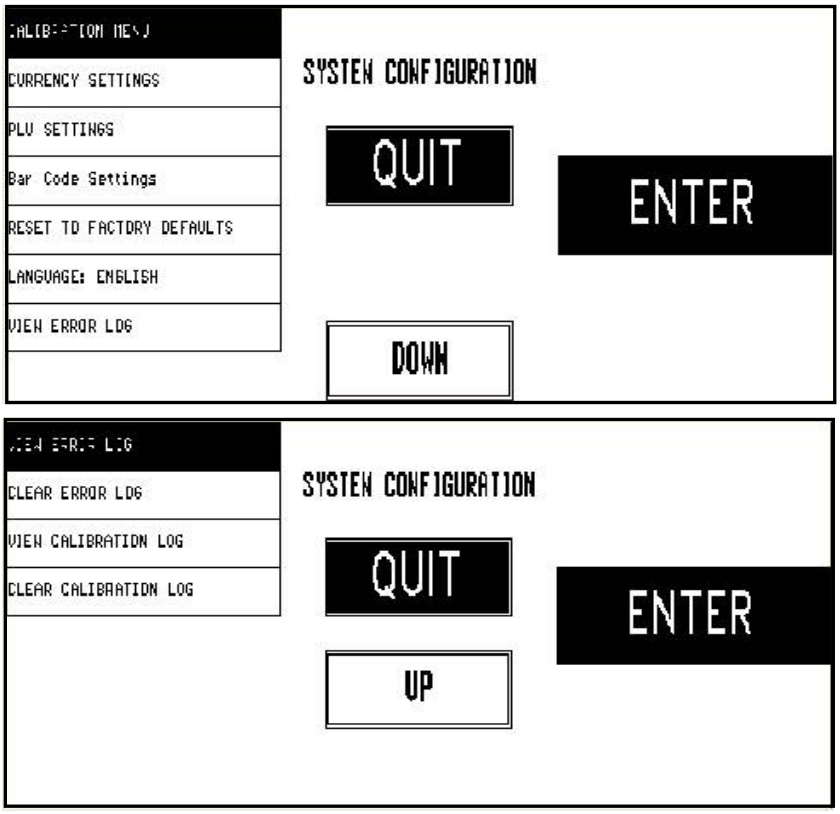


Figure 3-9: Unit CAL Switch Location



System Configuration Screens One and Two

Calibration Menu

From the System Configuration Menu, touch **CALIBRATION MENU** then **ENTER.** From this menu you can select various weighing parameters and calibrate the scale.

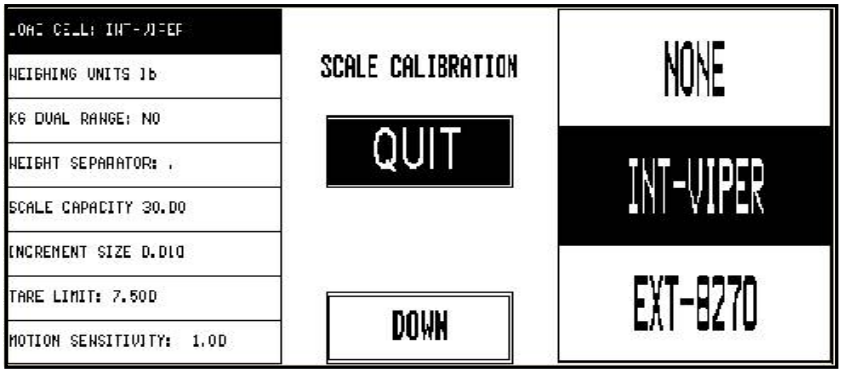
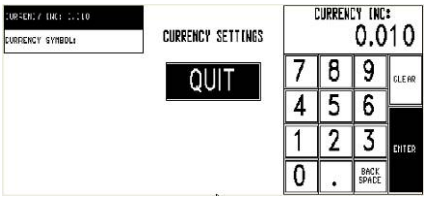


Figure 3-10: Calibration Menu

Explanations and default values for standard unit configuration are as follows:

LOAD CELL: INT-VIPER	Select NONE, INT-VIPER for the standard internal scale, or EXT-8270 for the Model 8270 Scale base.
WEIGHING UNITS: lb	Select the weight unit and build. lb = pounds. kg = kilograms.
KG DUAL RANGE: NO	Select single range (NO) or dual range (YES) for metric modes.
WEIGHT SEPARATOR: .	Select (.) decimal point or (,) comma as the decimal separator.
SCALE CAPACITY: 30.00	Use 30 x .01 lb, 15 x .005 kg, or dual range metric 6 x .002/15 x .005 kg for units with internal load cells. Use 50 x .01 lb or 20 x .005 kg for dead deck units with the external Model 8270 Scale Base.
INCREMENT SIZE: 0.010	Default is 0.010 lb or 0.005 kg.
TARE LIMIT: 15.000	Limits the amount that can be tared. (Note: kg tare limit is 9.995 kg).
MOTION SENSITIVITY: 1.00 div	Sets the motion sensitivity at which the scale will not print or continue operation. (If the weight varies more than the selected division, the scale will wait for the weight to settle).
MOTION READINGS: 5	Determines the amount of consecutive motion readings required to print a label or to continue.
MINIMUM PRINT INC: 20 div	Minimum weight on the scale before a label will print.
AZM Rate 0.10 (d/sec)	Auto Zero Maintenance determines how often the Zero center of the scale is updated (divisions per second). Use 0.10 for most conditions.

CALIBRATE	Calibrate new scales on site. Calibration is required if the load cell or Main PCB is replaced, if the scale will not zero, or if the scale is not weighing accurately. Follow the instructions on the scale screen. • Remove any items from the platter. • Touch CALIBRATE, then ENTER to start calibration. • Touch CONTINUE to calibrate zero (with empty platter). The unit counts down from 15 to 0. Do not disturb the unit while it is counting. • When prompted, add test weight to the platter. The minimum recommended weight is 10 lb/5 kg. • Enter the value of the test weight, then touch ENTER. The unit will first count down from 15 to 0. Do not disturb the scale while it is counting down. Calibration is complete, the display will return to the Calibration Menu.
WEIGHT	Raw Counts, for Factory Use only.

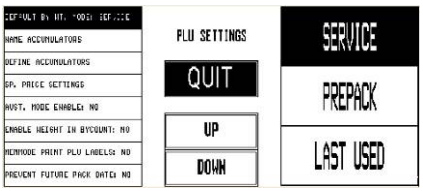


Currency Settings

Options and the typical values for currency configuration are:

CURRENCY INC: 0.010 Select the currency increment and decimal point position.

CURRENCY SYMBOL: $ Select the currency symbol (up to 3 characters).



PLU Settings

Selections and the typical settings for standard unit configuration are:

CALL BY ITEM: NO	No = Call by PLU (default). Yes = Call by Item Number.
TARE FIELD TO USE: TARE1	Select TARE1 (default), TARE 2, or NONE (see AUST. MODE ENABLE option near the end of this table). NONE disables the preprogrammed tare field in the PLU record. Use only TARE1 with 8422-type master.
VOID AVAILABLE: YES	YES = Enable (default) and No = Disable the void transaction function and key. Void is used to subtract a transaction from the totals accumulator.

PROP TARE AVAILABLE: NO	Yes to enable, or No (default) to disable proportional tare. If Proportional Tare is used (SmartTouch® Master must be Version 3.0 or later), it is stored in the Tare2 field. By-Weight tares are stored in the Tare1 field. The Net Weight will be the gross weight minus the By-Weight Tare, minus the proportional tare, times the Gross Weight, minus By-Weight Tare value. The mathematical representation is as follows: Net Weight = (Gross Wgt - Tare 1) - (Tare 2 x (Gross Wgt - Tare 1))
MANUAL MODE KEYS	Yes = Enable or No = Disable pricing mode keys (POUNDS FOR, BY QTR, BY HALF) available for manual (off-line) operation. Select only those mode keys that are required and legal for your application. Touch the corresponding box to toggle YES/NO. Yes is default.
SERVICE MODE KEYS PREPACK MODE KEYS	Configure printing conditions for Prepack and Service mode. Touch the box to toggle YES/NO. PRINT AFTER MOTION - After placing an item on the platter a label prints automatically, (weight must exceed minimum print increment value). Normally set to NO for Service Mode (default), YES for Prepack (default). PRINT KEY ALWAYS ACTIVE - When set to "YES" the print key remains active and allows multiple labels to be printed when a PLU is called. When set to "NO" printing is only allowed once (unless with weight applied, a new motion, no motion condition occurs). Normally set to NO for Service mode (default) and YES for Prepack (default).
DEFAULT BY WT. MODE	SERVICE (default), PREPACK, or LAST USED mode to be used each time a new By Weight PLU is called.
NAME ACCUMULATORS	Edit the names of 5 accumulators selectable through the ACCUMULATOR key on the PLU screen. These should match the names in the Master. Defaults are: Auto, Manual, Rewrap, Combination, and Inventory.
DEFINE ACCUMULATORS	Define the order and availability of accumulator types for Auto Price and Manual Price items. During operation, the user will have the ability to scroll through up to 5 accumulator types (depending on the choices made here). For Auto Price, the box immediately below contains the first Accumulator option and the remaining boxes below contain the four following options. To configure, touch the appropriate box to toggle through the accumulator options until the desired one is found, and continue until the desired number and order of accumulators has been set. Repeat for Manual Price.

SPECIAL PRICE SETTINGS	This selection defines the rules for rounding weight calculations, unit price, count, and discounts. These settings must match the store POS (Point Of Sale) setup. BW: TOTAL PRICE — Select Rounding Method 0-4 below. BW: CALC WT — Select Rounding Method 0-4 below. BW: PER UNIT MTD. — By-Weight Per Unit Method. Valid entries are 0: USAVE FIRST and 1: MEM. FIRST. When selecting "0", the dollars/cents saved value is calculated first, then the member total price is calculated. When selecting "1", the member total price is calculated first. Then the dollars/cents saved value is calculated. The calculations apply only for the $/cents off the unit price for a By-Weight PLU. % DISCOUNT — Select Rounding Method 0-4 below. BC: TOTAL PRICE — Select Rounding Method 0-4 below. Rounding Methods 0-4 0: FIVE UP (2.5350 ROUNDS TO 2.54) 1: FIVE DOWN (2.5350 ROUNDS TO 2.53) 2: IEEE ROUNDING (EVEN) (2.5350 ROUNDS TO 2.54, and 2.5450 ROUNDS TO 2.54) 3: TRUNC DOWN (2.5374 ROUNDS TO 2.53) 4: TRUNC UP (2.5315 ROUNDS TO 2.54)
AUST. MODE ENABLE	Default is NO for standard tare operation. YES selects the following (required for units sold in Australia): • Disables preprogrammed tare. • By-Count PLUs are not allowed. • Fractional or "kg For" pricing is not allowed. • Enables increasing tare requirement. (The next platter tare taken must be higher than the value on the display.) For Australia, also set the option TARE FIELD TO USE to NONE.
ENABLE WEIGHT IN BYCOUNT	Yes allows viewing and printing a By-count item's weight when placed on the scale platter. (Note: Weight field must be added to the custom label.)
MEMODE PRINT PLU LABELS	If memory mode is enabled, and this function is set to YES, a label will be printed for each transaction, in addition to the receipt label.
PREVENT FUTURE PACK DATE	YES prevents an operator from changing a pack date that is later than the current date. NO allows future dates to be used in the pack date.
ENABLE CANADIAN NUTRITION	Enable Nutrition Facts in Canada format.
DISABLE LB/KG FOR	YES disable using pounds for or kg for pricing modes.
DISABLE LB FRAC	YES disable using pounds fractional for pricing modes.

ENABLE BARCODE UPC EAN **(FlexEAN – Refer to following section for programming detail.)**	When creating label formats, you can select a "Programmable text" field to define how the bar code will be printed, either UPC or EAN. The bar code definition is fixed at 13 digits. UPC codes start with 02 and EAN codes start with 2. This is not valid for other bar code types, only random weight. Valid characters are: • 0-9 • N = item number • $ = Price • C = Price check digit • X = Bar code check digit • # = Weight An example where the first definition is UPC and the second one is EAN: 02NNNNNC$$$$X 2NNNNNC$$$$$X • When selecting the "Programmable Text field" after editing it will be checked to see if the digits are valid. If the "Programmable Text" field in the bar code is valid, it will override the scale settings or bar code type in the PLU record under "RANDOM WEIGHT TYPE". • If the selected "Programmable Text" field in the bar code is not valid, it will not use this data and will default to the normal bar code type. • When the PLU barcode type is not = to "Use Scale Settings" the barcode type is selected via the style field as described above. When the PLU barcode type is = "Use Scale Setting" the barcode setting selected in the scale is used.

FlexEAN setup instructions

There are four areas of setup that will need to be changed to enable the FlexEAN feature by PLU at the scale. The description below describes the setup at the Master Editor. This can also be performed with host management.

(1) PLU Settings

- From Main Screen go into **Setup.**
- Choose **Unit**, **Calibrate**, **PLU Settings**.
- Page down 3 times to **Enable Barcode_UPC_EAN.** Set to **YES.**
- Press Quit three times to return to Main Screen

(2) Master Editor

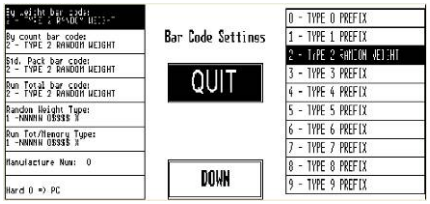
- From Main Screen select **Setup** again.
- Select **Master Editor** and enter password if required. Otherwise press Enter.
- From the top menu, select **Edit,** PLU Record. Enter a PLU number and press **Active.**
- Page down to Label Style. where barcodes can be selected.
- Press **Clear**, and **YES** to Save Changes?
- Press Quit to return to Main Screen

(3) Program Label Formats

- From Main Screen select Set Up, Unit, Program Label Formats.
- Select **Copy Default.** Select the label format and press **Edit.**
- Rename the format using **Edit**.
- Select **Bar Code** and press **Edit.**
- Press Programmable Text and enter **02NNNNNC$$$$X 2NNNNNC$$$$$X** (where 02 is the configuration for UPC and 2 is the configuration for EAN barcodes.)
- Highlight the field and press **Select.**

(4) Printer Setup

- Press Exit twice to return to Unit Setup and select **Printer Setup.**
- Select the appropriate size label and press Enter.
  - Select '**By Weight Styles'** by pressing **Enter**
  - Select the first label format 0 and **Edit**
  - Choose the newly design label format
  - Continue through the remaining formats the same way.
  - Styles 0-7 are the styles for the first label format using the UPC code and styles 8-15 will use the second barcode style for EAN.
- Press Quit 4 times to exit and return to main screen



Bar Code Settings

Touch BAR CODE SETTINGS, and then ENTER to configure the Bar Code settings. The Model UC-ST can be set up to print either UPC-A or EAN-13 bar code symbols. The Bar Code Settings selections are determined by the last item on the menu (Bar Code Type), which selects either **UPC, EAN,** or **RSS** bar code symbols. When UPC is selected, only valid UPC settings will display. When EAN is selected, only valid EAN settings will display.

UPC Bar Code Setup

If a Manufacturer Number is used, the barcode will consist of a 5-digit manufacturer number and 5-digit item number for type 0, 1, 3, 5, 6, 7, 8, and 9 bar code types.

Example UPC Barcode Symbol

Bar Code Format Codes:
N Item number Digits.
C Check Digit.
0 The number zero.
$ Total Price Digits.
# Weight Digits.
X Symbol Check Digit.
D Digit.

By-Weight Bar Code	Select the By-Weight bar code type. The default is 2. The selections are as follows: 0 Type 0 Prefix (No price is encoded) 1 Type 1 Prefix (No price is encoded) 2 Type 2 Random-Weight. 3 Type 3 Prefix (No price is encoded) 4 Type 4 Prefix (No price is encoded) 5 Type 0 Prefix (No price is encoded) 6 Type 6 Prefix (No price is encoded) 7 Type 7 Prefix (No price is encoded) 8 Type 8 Prefix (No price is encoded) 9 Type 9 Prefix (No price is encoded)
By-Count Bar Code	Refer to By-Weight Bar Codes. (Default = 2).
Std. Pack Bar Code	Refer to By-Weight Bar Codes. (Default = 2).
Run Total Bar Code	Refer to By-Weight Bar Codes. (Default = 2).
Random Weight Type	Select the format of the bar code when a Type-2 bar code is selected. Refer to the code explanations on the left. 0 NNNNN C$$$$ X (5-D Item/C/4-D Price) 1 NNNNN O$$$$ X (5-D Item/O/4-D Price) 2 NNNNN N$$$$ X (6-D Item/4-D Price) 3 NNNNN $$$$$ X (5-D Item/5-D Price) 4 NNNNN C#### X (5-D Item/C/4-D Wgt) 5 NNNNN O#### X (5-D Item/O/4-D Wgt) 6 NNNNN N#### X (6-D Item/4-D Wgt) 7 NNNNN ##### X (5-D Item/5-D Wgt)
Run Tot/Mem Type	Sets the format of the bar code when Type-2 is selected for Run Totals or Receipt labels. Refer to By-Weight Bar Code for available selections.
Manufacturer Num	This selection allows for a default five-digit manufacturer number, when used with type 0, 1, 3, 5, 6, or 7 bar codes, replacing the first five MSD digits of the item number.
Hard 0 => PC **6 Digit Item => PC**	When a PLU contains a command to turn off the price check digit, (Ex: Action Code 49), this selection determines what will print in the price check digit space. A hard zero or a six-digit item number can be selected.
Barcode Type	Select UPC Barcode (Std. U.S.), or EAN for EAN-13 Barcode applications. Select RSS for system that can support the new RSS symbols.

EAN Bar Code Setup

EAN Bar Code Setup displays only when EAN Bar Code type is selected.

Example EAN Barcode Symbol

Bar Code Format Codes:
N Item number Digits.
C Check Digit.
0 The number zero.
$ Total Price Digits.
# Weight Digit.
X Symbol Check Digit.
D Digit.

By-Weight Bar Code	EAN Flag 2 digit to be used for By-Weight labels (0-9).
By-Count Bar Code	EAN Flag 2 digit to be used for By-Count labels (0-9).
Std. Pack Bar Code	EAN Flag 2 digit to be used for Standard Pack labels (0-9).
Run Total Bar Code	Refer to By-Weight Bar Codes.
By-Weight Format	Select the By-Weight bar code format. Refer to the code explanations on the left. 0 NNNNN N$$$$ X (6-D Item/4-D Price) 1 NNNNN $$$$$ X (5-D Item/5-D Price) 2 NNNN$ $$$$$ X (4-D Item/6-D Price) 3 NNNNN C$$$$ X (5-D Item/C/4-D Price) 4 NNNNC $$$$$ X (4-D Item/C /5-D Price) 5 NNNNN ##### X (5-D Item/5-D Wgt) 6 NNNNC ##### X (4-D Item/C/5-D Wgt)
By-Count Format **Standard Pack Format** **Run Tot/Mem Format**	Refer to By-Weight Bar Codes. (Default = 2). Refer to By-Weight Bar Codes. (Default = 2). Refer to By-Weight Bar Codes. (Default = 2).
Barcode Type	Select UPC Barcode (Std. U.S.), or EAN for EAN-13 Barcode applications.

Reset To Factory Defaults

Touch RESET TO FACTORY DEFAULTS (box will highlight), then touch ENTER. This will bring up a screen asking to "Rest Calibrations Also?", touch YES to reset (clear) all settings including the scale calibration settings, touch NO – JUST RESET RAM to reset only system settings and replace them with the default formats, or CANCAL to cancel out and return. *Warning! All custom settings will be cleared!*

Language

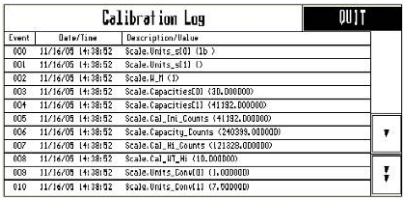
Select English, Spanish, or French for the scale operation.

View Error Log

This is a factory diagnostic tool. Touch VIEW ERROR LOG, then ENTER to view the error log. When in the view screen, touch the screen once to advance to the next page and then touch the screen again from the last page to exit the error screen.

Clear Error Log

Touch CLEAR ERROR LOG, and then CLEAR to clear all error log codes. There is no confirmation to clear errors, so be certain before touching CLEAR.



View Calibration Log

This is a factory diagnostic tool. Touch VIEW CALIBRATION LOG, then ENTER to view the log. When in the view screen, touch the screen once to advance to the next page and then touch the screen again from the last page to exit.

Clear Calibration Log

Touch CLEAR CALIBRATION LOG, and then CLEAR to clear all log codes. There is no confirmation to clear errors, so be certain before touching CLEAR.

Peripheral Configuration

From the Unit Setup screen (shown in Figure 3-1), touch **PERIPHERAL CONFIGURATION** for the unit Host Communications setup menu. The Serial Port is located on the front of the scale.

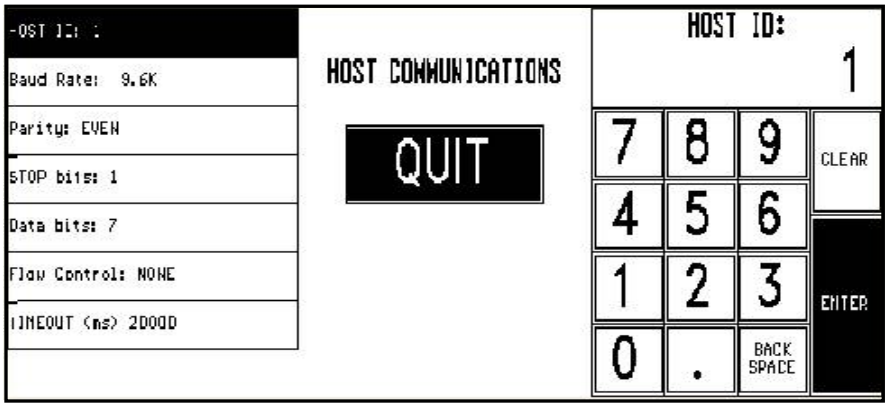


Figure 3-11: Host Communications Setup

Host ID	Two-digit ID.
Baud Rate	Default is 9.6k baud.
Parity	Default is EVEN. Selections are Even, Odd, Low, High, and Off.
Stop Bits	Default is 1. Selections are 1, 1.5 and 2.
Data Bits	Default is 7. Selections are 5, 6, 7, and 8.
Flow Control	Default is None. Selections are None, XON/XOFF, and RTS/CTS.
Timeout	Default is 20000ms.

Program Label Formats

Before beginning a custom label format, the proper label size must be installed in the printer. From the Unit Setup screen, touch **PROGRAM LABEL FORMATS** to enter the Label Formats screen.

Label Formats Screen

The **Label Formats** screen is shown below. From this screen, you can edit formats, create new formats, copy formats (default or custom), delete formats, and print test labels. To make a format the default, assign the format as the default in the Printer Setup screens.

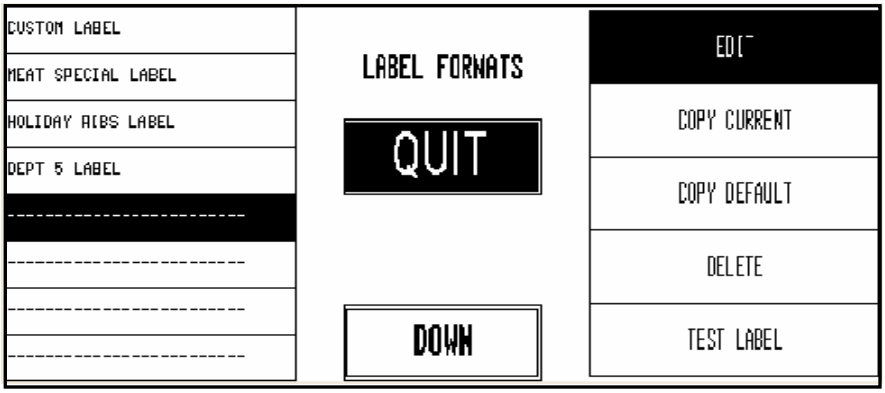


Figure 3-12: Program Label Formats Main Menu Screen

EDIT	Used to create new formats from a blank template, and to modify existing custom formats. To modify an existing format, touch the format you wish to edit and then touch EDIT. To create a new format from scratch, touch an unused box (one with dashes), then touch EDIT. When complete, go to the Edit a Label Format section and immediately name your label.
COPY CURRENT	Duplicates a custom format. To create a new format starting with an existing custom format, touch the format you wish to copy, and then touch COPY CURRENT. An copy of the format with the name "!New Format!" will appear in the next available box. Touch the "!New Format!" box, then EDIT to modify the format. When complete, go to the Edit a Label Format section and immediately rename the format.

COPY DEFAULT	Use to create a new format using the label format templates. To create a new format starting with a default format, touch an empty box, then the COPY DEFAULT key. (If you touch a box that contains an existing label format, it will be overwritten.) A list of default formats will then appear. Touch the format you wish to copy. A copy of this format with the name !New Format! will appear in the box you selected. Touch the !New Format! box, then EDIT to modify the label format. Samples of all the default label formats are in Chapter 5. When completed, go to Edit a Label Format section and immediately rename your label.
DELETE	Deletes custom formats. To delete a custom label format, touch the format you wish to delete, then DELETE. You will then receive the message DELETE FORMAT ARE YOU SURE?. Touch YES to delete or NO to continue.
TEST LABEL	To print a test label, touch the label format you wish, then touch TEST LABEL.

Tip: to avoid confusion, rename new formats to something unique. Touch the NAME box on the right and then EDIT to change the name. This will bring up the keyboard. To delete the entire line, touch SHIFT then BACKSPACE. Touch ENTER when done.

Edit a Label Format

From the Label Formats screen, touch the desired label format, then EDIT. The Label Setup screen, (below) will appear. (If it is a new format, all of the boxes will be blank.)

The first box represents the name of the format, and the remaining boxes represent entities on the label.

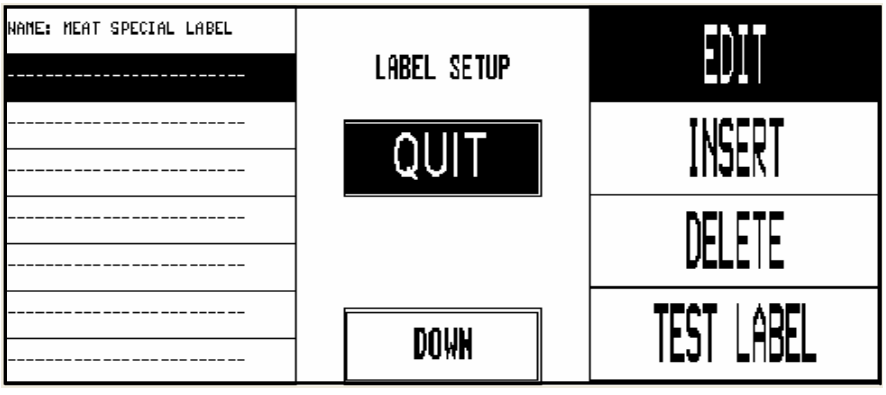


Figure 3-13: Edit a Label Format Screen

The Label Setup screen will return, touch to highlight the entitiy you wish to modify. You can now begin creating, editing, and deleting label entities.

DELETE	To delete an existing entity, touch the entity box, then DELETE. The prompt DELETE FIELD ARE YOU SURE? will appear. Touch YES to delete or NO to abort.
INSERT	To add a new entity, touch a blank [----------] box, then touch EDIT or INSERT, A new field [----------] will appear above the highlighted field. The Field Setup screen will appear with the top box highlighted (below).
EDIT	To modify an entity, touch that box then EDIT. The Field Setup screen (below) will appear below with the top box highlighted. The top box is the entity type and the boxes below are the physical characteristics (location and size) of the entity.
TEST LABEL	Touch TEST LABEL to print a test label.

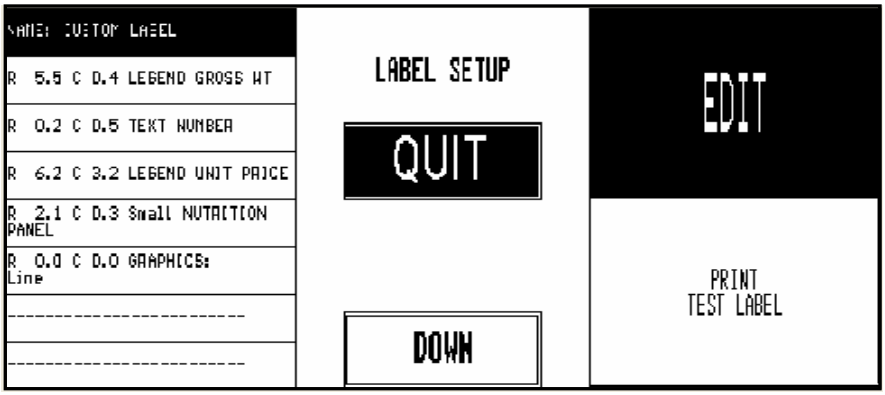


Figure 3-14: Field Setup with Label Entities

To select a different entity type, touch the entitiy on the , and then touch one of the types on the right.

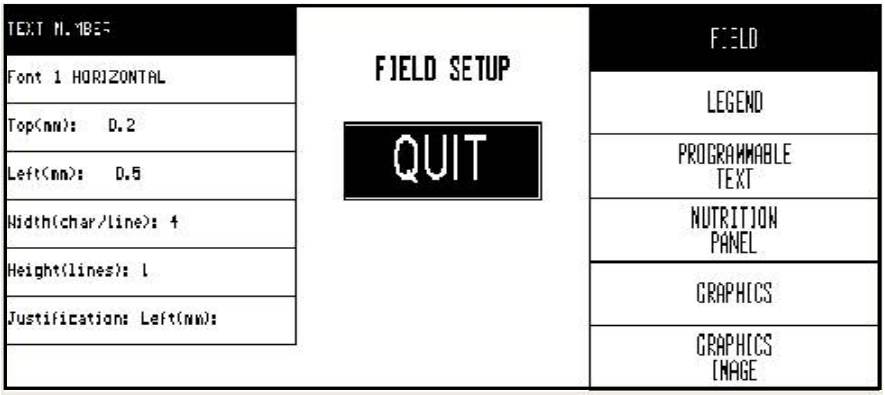


Figure 3-15: Field Setup Screen

Note: The current entity name and type will be highlighted when first entering this screen.

The following section explains the different Label Entity types.

Label Entity Types

Field	A Field represents data from the PLU record that will print on a label. To select (or change) a field type, touch the EDIT key, then the FIELD key. The list of available fields will display. Touch the box to select it. Fields: Net Wt, Net Wt & Units, Gross Wt, Gross Wt & Units, Tare Wt, Tare Wt & Units, Unit Price, Total Price, Count/Packages, Net Wt Statement, Pack Date, Julian Pack Date, Sell-By Date, Sell-By Days, Use-By Date, Use-By Days, Pack Time, Bar Code, Description, Grade, Extra Text (F), Extra Text (V), Address, Current Date, Current Time, Scale Units, Currency Symbol, Accumulator Mode, Operator No., Operator Name, PLU Number, Item Number, PLU_Dept. No., Grade Number, Text Number, Action Number, (Frequent Shopper Only - MEM/LIST T.PRICE, USAVE PRICE).
Legend	A Legend is text that appears as a caption to explain a field (i.e., "Unit Price", "Net Weight"). To select a legend, touch the EDIT key, then the LEGEND key. A list of available legends will appear. Page through the menu to find the desired legend and touch it to select.
Programmable Text	Programmable text can be a custom legend or message. To select or program text, touch the EDIT key, then the PROGRAMMABLE TEXT key. A list of text entries will appear. To edit an existing text, touch the text box, and then EDIT. To create new text, touch a blank box [----------], then EDIT. After the text is created or edited, select the text by touching the desired text and then SELECT.
Nutrition Panel	Positions a Nutrition Text Panel using standard panel templates. To place a panel on the label format, touch the EDIT key, then the NUTRITION PANEL key to configure the location (mm from top and left). The other selections do not affect the Nutritional Fact panel. The format of the text is configured in the PLU record. Five formats are available: Vertical Standard, Vertical Simplified, Linear Landscape, Linear Portrait, and Tabular.
Graphics	To place graphics in the format, touch the EDIT key, then the GRAPHICS key. Select one of the graphics types on the right. Graphics boxes can have text inside of them. Text positioned inside a Filled Box will be black with white text. To achieve this, place the text and the box location in the same place. The Font and Justification selections do not affect the graphics. Width and Height, Top and Left, settings are the dimensions in millimeters. Graphics include a Horizontal line, Vertical Line, Diagonal Line, Empty Box, Filled Box.
Graphics Image	Positions a Graphics Image on the label that has been assigned in the PLU record. Only the location of the top left corner of the graphic image (in millimeters) can be set up. The rest of the characteristic selections do not affect the graphic image. Graphics Images cannot be scaled. The size is fixed when they are downloaded to the master from Intelli-Net. (See Master Programming Manual or Intelli-Net manual for details.)

Physical Characteristics

To edit a Physical Characteristic (location, size, etc.), touch the entity and one of the characteristics explained below.

Font	H1-H7 are horizontal fonts and V1-V7 are vertical fonts, with V1 and H1 being the smallest fonts. Font V6 or H6 (Vertical or Horizontal) is a numeric font only. This characteristic does not affect Nutritional Panels, Graphics, or Graphics Images.

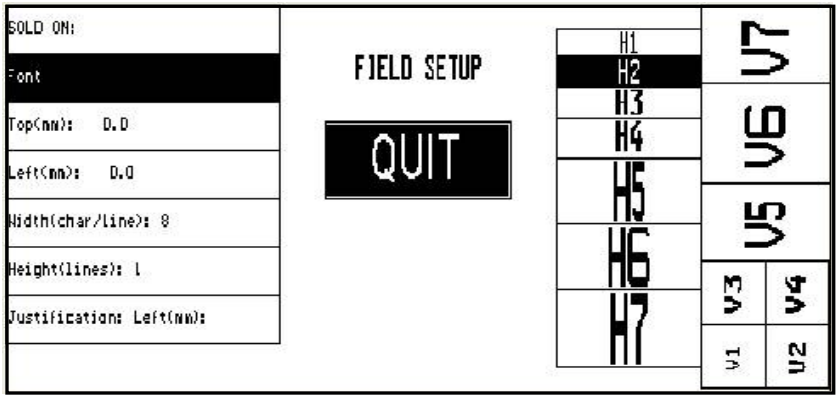


Figure 3-16: Field Setup Screen - Font

Top, Left	Top is the number of mm (millimeters) down from the top edge of the label. Left is the position in mm to the right, from the left edge of the label.
Width, Height	The function of Width and Height depend on the type of data selected. A default value is automatically set for fields, legends, and programmable text. Changing the height allows for multiple lines of extra text and changes the UPC symbol size. The Width and Height keys do not affect Nutrition panels. The size of the panel is determined by the NF template chosen in the PLU record as shown below.

Panel Template	Width (mm)	Height (mm)
Vertical Standard	40	Variable
Vertical Simplified	40	Variable
Tabular	24	91
Linear Landscape	Variable	64
Linear Portrait	64	Variable
Narrow Horizontal (3-column)	64.1	Variable

All values refer to templates with all the "required fields", but without any "voluntary" information. If voluntary information is included, the dimension will be larger. Width and Height do not affect Graphics Images. The size of the image is fixed once it is downloaded to the master. The size of the graphics image is set when it is scanned or created.

Justification	Justification determines the horizontal alignment of text. Justification does not affect Nutrition Panels, Graphics, or Graphics Images.

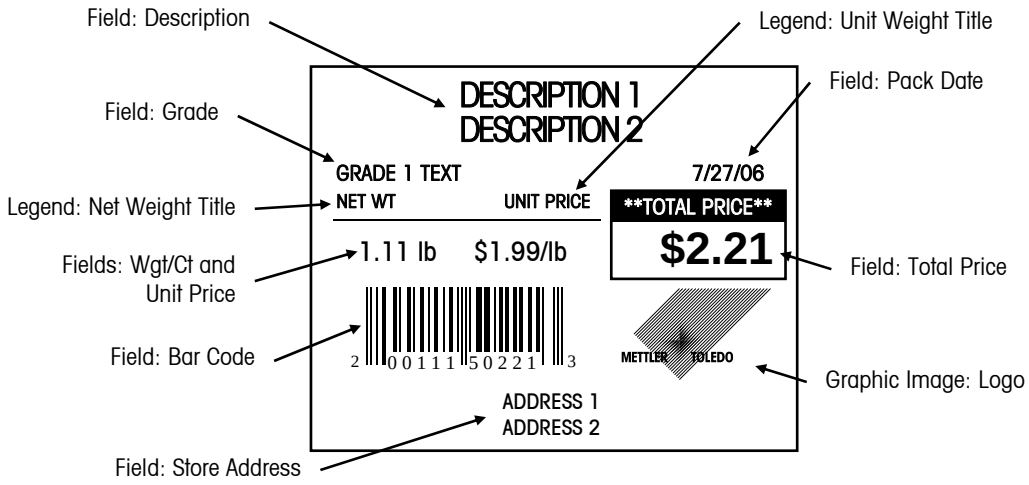


Figure 3-17: Sample Label

Exiting from Editing Label Formats

When you are finished creating custom labels touch QUIT. A reminder will display the message **Remember to Assign Format!.** Touch the CONTINUE to exit. The message is only a reminder to assign the format to a pricing mode (By-Weight, By-Count, etc.). Once a label format is created, it is not active until it is assigned through the Printer Setup menu.

Printer Setup

This section explains the functions of the Label Printer Parameters screens (below). Label sizes, style defaults, printing, and delivery options are explained.

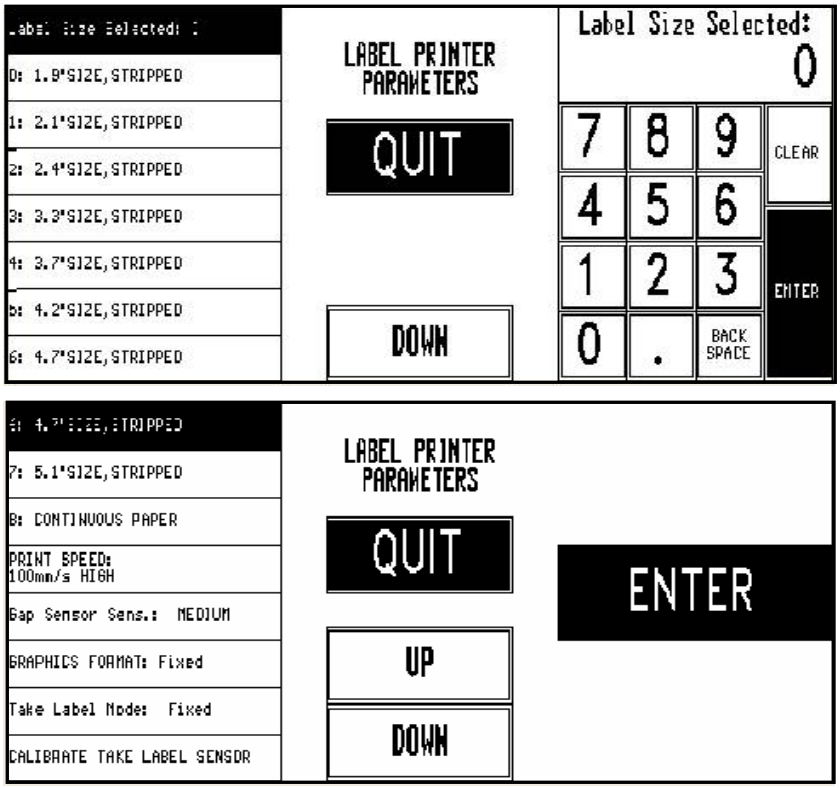


Figure 3-18: Label Printer Parameters Screens 1 and 2

Label Size Selected

From the Unit Setup screen, touch PRINTER SETUP to display Screen 1 of Label Printer Parameters. This screen is used to assign label formats and other functions. Label format 0 is used if the value of the LABEL STYLE field in the PLU record is zero. Formats 1-7 are used for alternate formats. To select a new default label size, touch the top box LABEL SIZE SELECTED and enter the label size number. Touch DOWN to display the second and third screen.

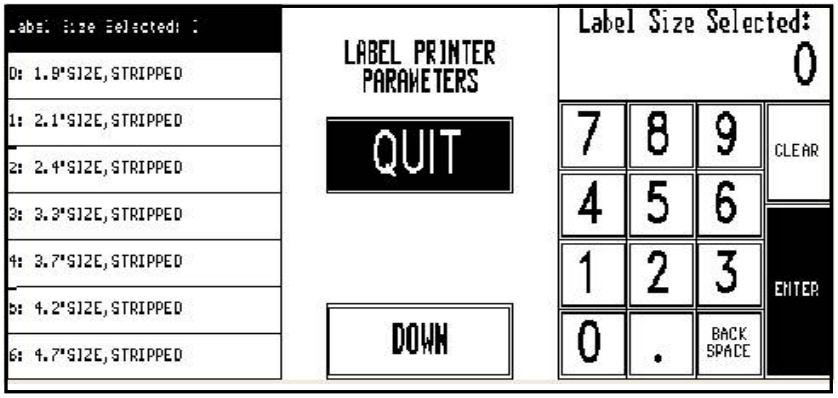


Figure 3-19: Label Size Selected

Label Sizes 0-8

The boxes 0-8 on screen 1 and 2 are assigned label sizes. To edit a label size, touch that label size (1) then touch ENTER (2).

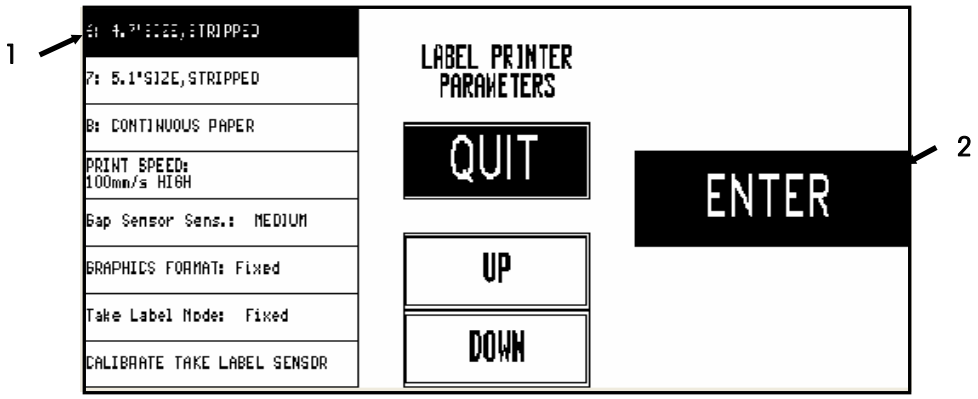
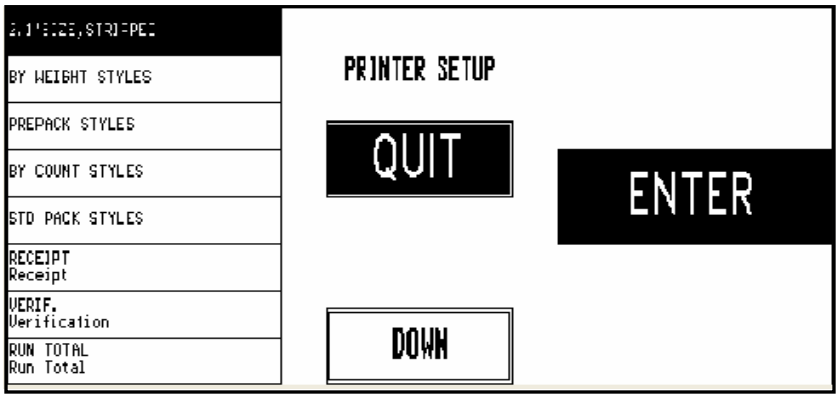


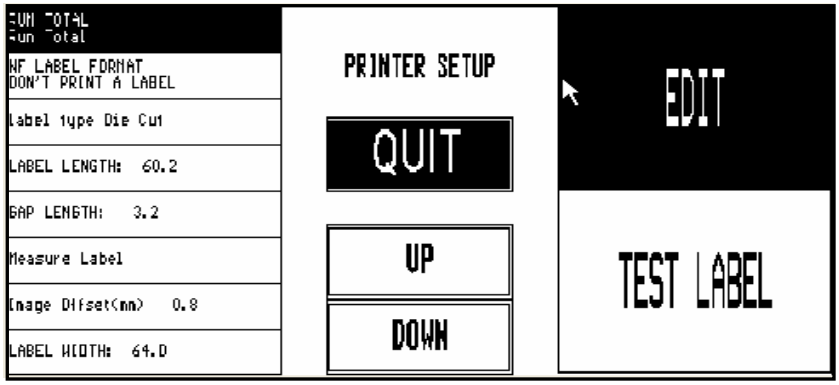
Figure 3-20: Select Label Size to Edit

After selecting a label size to edit, the following screens will be available. Touch DOWN to display screen 2 and 3. The top box on Screen 1 shows the label style assigned to Style 1. To edit the name of the style, touch the top box then touch ENTER.

Screen 1



Screen 2



Screen 3

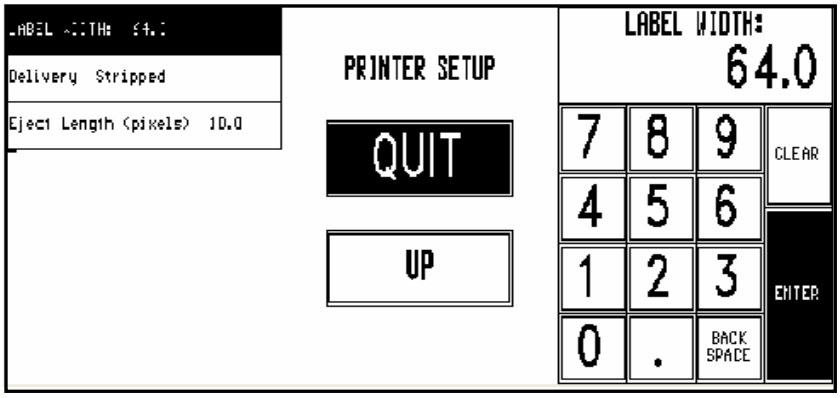


Figure 3-21: Printer Setup Screens 1, 2, and 3

To assign a label format to the default format (0), or one of the alternate formats (1-7), first select one of the label styles (BY WEIGHT STYLES, PREPACK STYLES, etc. shown on Screen 1 in Figure 3-21). Next, select the label style number you wish to edit (0-7 Figure 3-22), then touch ENTER to select a new label format from the format list.

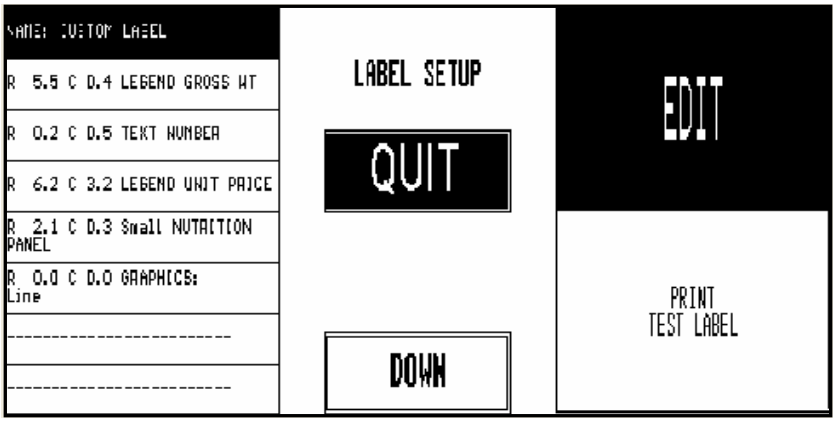


Figure 3-22: Select a new Label Format or Print Test Label

Touching EDIT will display a list of available label formats as shown in Figure 3-23. Touch a label format to select that format for the current label style. Touch QUIT to return to the previous screen.

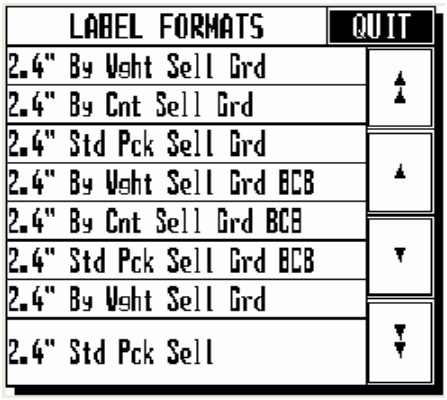


Figure 3-23: Selecting a Label Format from the Format List

Additional formats can be assigned for RECEIPT, VERIF (Verification Labels), RUN TOTAL, and NF LABEL FORMAT. Touch EDIT to modify the label format for each of these types of labels. Touch TEST LABEL to print a label of the current label format.

Label Type

Select Die Cut or Continuous labels. Die Cut labels are individual labels. Continuous is one continuous thermal strip that is printed and torn off one at a time. Continuous lengths can vary in length depending on the length of Extra Text or Nutrifacts. (Refer to Figure 3-21, Screen 2.)

Label Length

Custom label lengths (in mm) can be entered here. When a certain default label size is selected, the default length for that label size will be automatically entered into this field. Lengths from 0 to 203 mm (7.9 in) are accepted. (Refer to Figure 3-21, Screen 2.)

Gap Length

The Gap Length is the space (in mm) between die cut labels and is used to compensate for variances in different label suppliers. The standard Gap Length for METTLER

TOLEDO® specified labels are 3.2 mm. Note: 0.0 mm is used for continuous strip labels. Gap Lengths from 0 to 99.9 are accepted. (Refer to Figure 3-21, Screen 2)

Measure Label

This selection will measure the die cut label in the printer and enter the measured value in the Label Length Field (Refer to Figure 3-21, Screen 2)

Image Offset

The Image Offset (in mm) is used to raise or lower the printed image on the label referenced to a point above the label. The range is 0.0 to 31.9 mm. The label length determines the upper limit. Shorter labels will have a lower upper limit. To raise the image on a label, lower the value. To lower the image on a label, increase the value. (Refer to Figure 3-21, Screen 2) The default for die cut labels is 2.2 and for continuous 0.

Label Width

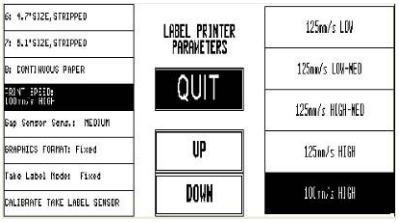
This function is used to set the label width (in mm). The default is 64 mm. The range is from 0.0 to 80.0 mm. The label format is centered based on this setting. Increasing the width will shift text to the left of the label. Decreasing the width will shift text to the right of the label. (Refer to Figure 3-21, Screen 3)

Delivery

Stripped delivers the labels peeled from the liner, with the liner wound up on the take up roller. **Unstripped** delivers the label to the operator with the liner attached to the labels. In the unstripped mode, multiple labels can be preprinted and attached to the package later. (Refer to Figure 3-21, Screen 3)

Eject Length

The Eject Length (in mm) is used to adjust where the label stops after printing. The Adjustment range is from 0 to 6.4. The default for die cut labels is 5.2 and the default for continuous strip is 0. (Refer to Figure 3-21, Screen 3)



Print Speed

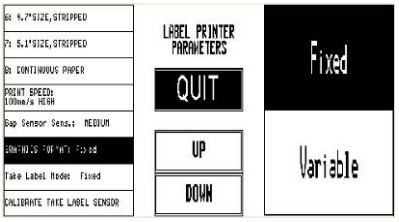
For optimal printing, the speed must match the type of labels used. Higher speed settings can be used with higher-quality labels. If the print density is light, set the print speed to a slower setting. The selections are as follows:

125 mm/sec Low
125 mm/sec Low-Med
125 mm/sec High-Med
125 mm/s High
100 mm/sec High

Gap Sensor Sensitivity

This selection affects the Gap Sensor sensitivity. For normal Mettler label stock a setting of **Medium** is recommended. The setting of **Low** is for darker forms; **High** is for lighter colored forms; Special is for labels with dark frames or high sensitivity.

Note: after you make a change to the Gap Sensitivity, you must update the label and gap length settings.



Graphics Format

This selection affects Continuous Strip labels only. Select **Fixed** or **Variable**. When **Fixed** is selected, any data after a graphic image remains at a fixed location even if the graphic is not printed. When **Variable** is selected, data is placed relative to a graphics image. If the image is deleted, the data will move up.

Network Setup

If the network is local, any number can be selected for the IP Address. An IP Address consists of a group of four numbers from 0 to 255, separated by periods, for example: 207.142.140.101.

Do not duplicate numbers on the network. To enter the numbers, key in the numbers starting with the MSD (left Most Significant Digit) number. The periods are not entered in this procedure. Enter numbers lower than 100 with preceding zeros (Example: 10 is entered as 010). To exit without saving, touch CLEAR. The scale will ping the network for the IP entered. If a duplicate IP is found on the network, the message "DUPLICATE IP ADDR" will display. You must then change the IP address to a unique address on the network before the client can access the master database. The UC-ST will automatically reset on exit after changing the Network Configuration.

The three network setup screens are shown below.

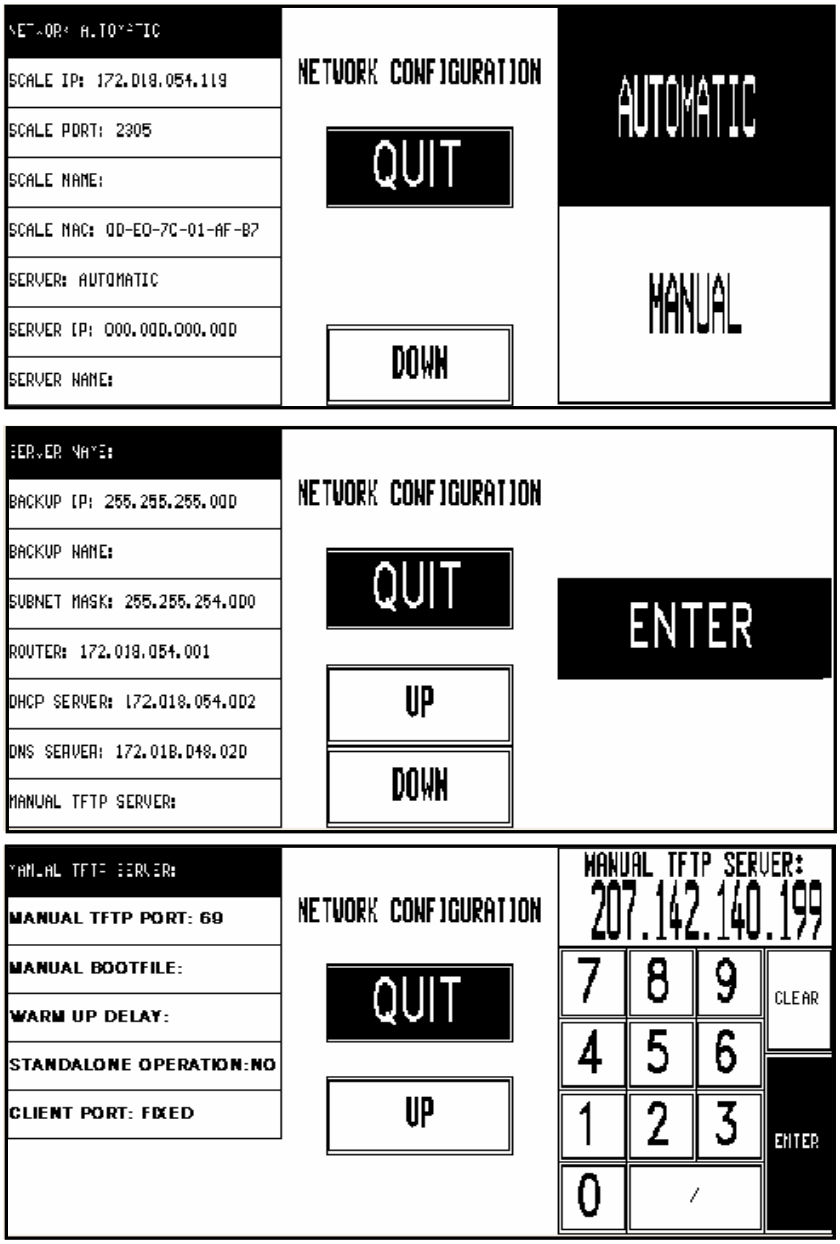


Figure 3-24: Network Configuration Screens 1, 2, and 3

You must first select the network boot type, Manual or Automatic. Automatic is the default. Automatic will use DHCP to automatically obtain the network boot information from a DHCP server. Manual uses a script to perform a boot from the network without changing the IP address. Details are explained in the following table.

NETWORK	When Automatic is selected, the DHCP and BOOTP features will be used. The "SERVER IP", "SERVER MAC", "SUBNET MASK", "ROUTER", "DHCP SERVER", and "DNS SERVER" fields will display but cannot be changed. The administrator must make sure the correct data is available on the network server and the DHCP server points each client to the correct locations. With this setup, administrators can abstract and group scales in logical groups. Each group can have their own software and data settings, eliminating the need to configure each scale individually. If Manual is selected, then the DHCP feature is disabled and the TCP/IP parameters and BOOTP parameters must be entered manually. The "Server MAC" field will display but no changes are allowed. The "DHCP Server" and "DNS Server" fields will display but changes are not allowed to these fields. If a scale is set to boot Manual, then there is no network query for boot information when the scale powers up. Booting follows the path of whatever data configured on the scale. The administrator must access each scale with a manual setting on an individual basis. This feature will allow the ease of administration that a centralized, networked based boot system provides, but not require DHCP services. The Boot sequence of a scale set to a manual Boot Sequence will follow the boot sequence of the Automatic setting excluding the DHCP portion. In addition, this also allows a remote person (administrator, field support), to update software and data on the scale through a 'runonce' boot sequence change. This would allow them the ability, with the coordination of scale network administrator, to change configurations and software from a remote location.
SCALE IP	This is the standalone IP address. If the "Network" is set to "Automatic" this field cannot be changed. If the "Network" is set to "Manual" then this field may be changed. The IP address is entered as four sets of numbers called octets consisting of three digits. The address is entered one octet at a time. A decimal point will appear after every three numbers are entered. When there are only 1 or 2 digits in an octet, fill in with zeros. For example, 1 is entered as 001. The default value for this field is 255.255.255.000.
SCALE PORT	Used in the standalone mode. This is the TCP/IP Host Port number used to communicate with the Standalone scale.
SCALE NAME	This is the local domain name to given to the standalone scale. Devices on the network can reference the scale by using this name.
SCALE MAC	Hardware Media Access Control (MAC) address. Each Ethernet device has a unique 6-byte MAC address. This field is displayed but cannot be changed.
SERVER	Select Automatic or Manual. If you wish to set the Subnet Mask and Router fields, set this function to Manual.
SERVER IP	This may be displayed, but is not used in the standalone mode.
SERVER NAME	This may be displayed, but is not used in the standalone mode.

BACKUP IP	If the database located at SERVER IP is un-available, the client will attempt to locate the record at the Backup IP location. The IP address is entered one octet at a time.
BACKUP NAME	This is the name of the location entered as the Backup IP.
SUBNET MASK	The mask that is used to identify the local network when accessing an IP address on the Ethernet network. If the "Network" is set to "Automatic" this field cannot be changed. If the "Network" is set to "Manual" thee field may be changed. The mask is entered one octet at a time. The default value is 255.255.255.000.
ROUTER	The router's (default gateway) IP address. The router is used when accessing devices outside of the local network. If the "Network" is set to "Automatic" this field cannot be changed. If the "Network" is set to "Manual" this field may be changed. The IP address is entered one octet at a time. The default value is 255.255.255.000.
DHCP SERVER	Display only. This is the current IP address of the local network's DHCP server. This field only displays when the "Network" is set to "Automatic" and cannot be changed.
DNS SERVER	Display only. This is the current IP address of the local network's DNS server. This field only displays when the "Network" is set to "Automatic" and cannot be changed.
MANUAL TFTP SERVER	The TFTP Server (Trivial File Transfer Protocol) is the location of the network boot files for the scale that can include application software and configuration data.
MANUAL TFTP PORT	The default port is 69. This setting can be changed by the system administrator if needed.
MANUAL BOOTFILE	This is the file name of the application or configuration file that will be downloaded to the scales.
WARM UP DELAY	0-250 second delay used to allow wireless radio to initialize prior to scale network initialization.
STANDALONE OPERATION	YES/NO : Standalone mode Enable/Disable
CLIENT PORT	FIXED/VARIABLE : Scale network TCP/IP Port Configuration

System Management

From the Unit Setup screen (shown in Figure 3-1), touch SYSTEM MANAGEMENT to configure various global settings and system preferences.

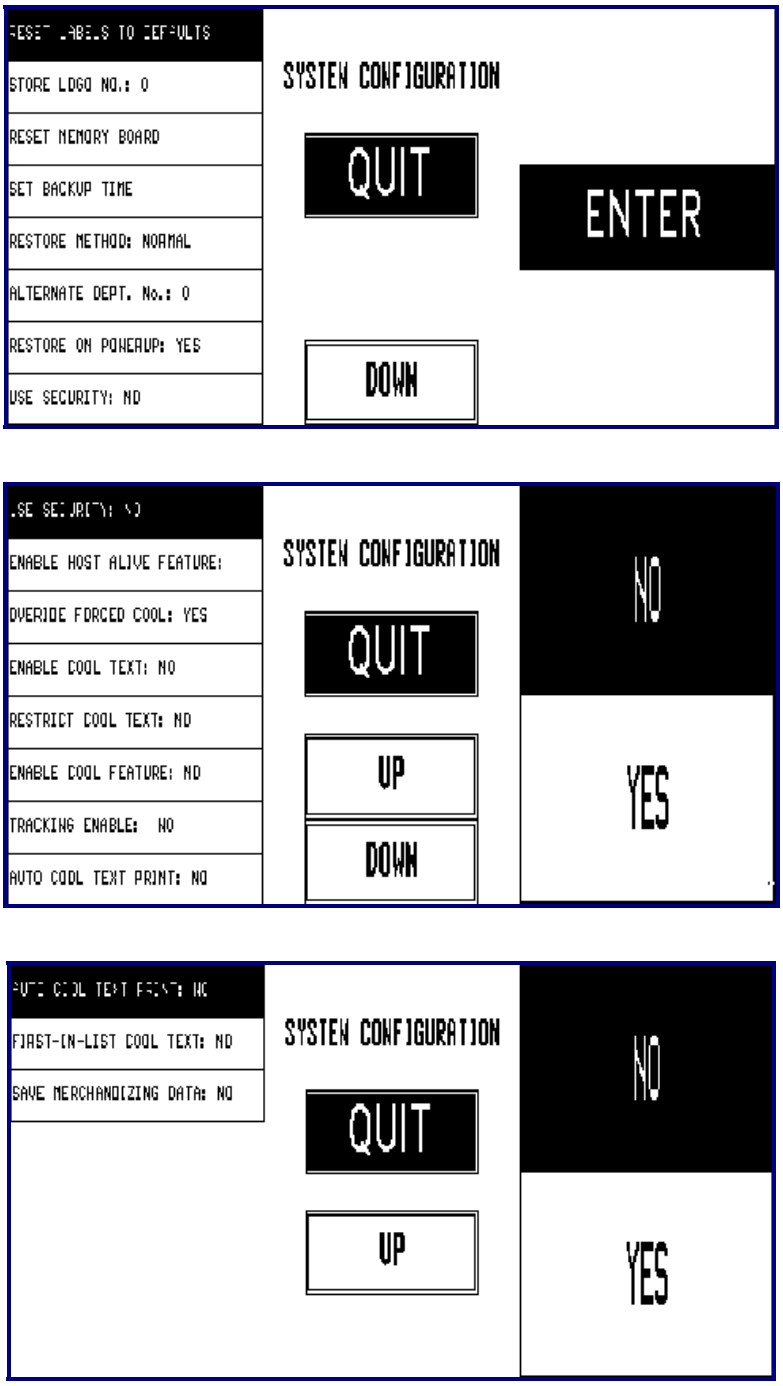


Figure 3-27: System Management Screens

A breakdown of each subcategory follows.

RESET LABELS TO DEFAULTS	Choose Reset Labels to Defaults to return all label formatting to factory system defaults. Caution should be taken when selecting all Custom label parameters will be lost. Select Yes to reset or No to cancel out.
STORE LOGO NO: 001	Allows the user to select from a list of numbered graphics that may represent the store's logo.
RESET MEMORY BOARD	Select Reset Memory Board to reset the Scale's memory board. Caution should be taken if the memory board is going to be reset, as data may be lost. Choose Yes to reset or No to cancel out.
SET BACKUP TIME	Set time of day to perform a system restore.
RESTORE METHOD	Options: normal, dept., current dept., presets
ALTERNATE DEPT. NO.	Alt. department to be backed up during restoration
RESTORE ON POWER-UP	Enable restore on power-up: yes or no
USE SECURITY	Enable security by operator or feature
ENABLE HOST ALIVE FEATURE	Scale pings host on a periodic schedule
OVERRIDE FORCED COOL	YES allows Forced COOL to be canceled or overridden by the operator. NO prevents overrides and the "No COOL Required" key will not be displayed.
ENABLE COOL TEXT	Normally set to NO. YES allows an override from the PLU screen. NO displays data, but touch box is not active for overrides.

RESTRICT COOL TEXT	This setting governs the way the COOL screens are presented and how it operates. **NO** NO is the default setting. When set to NO and COOL Text is set to (Force COOL = YES) in the PLU record, the operator is required to manually select a COOL text and press the ENTER key to accept. Optionally, if OVERRIDE FORCED COOL is set to YES, the default COOL text can be changed by selecting another COOL text or by selecting a Custom COOL text. The setting in the PLU record Force COOL must be set to YES for this feature to work. Maximum length of text is limited to 150 characters. **YES** When set to YES, the last used COOL text is automatically highlighted and if no change is required, the operator presses the ENTER key to accept the displayed COOL text. Optionally, if OVERRIDE FORCED COOL is set to YES, the default COOL text can be changed by selecting another COOL text or by selecting a Custom COOL text. Some other notes when using Restrict COOL Text Mode: • Operator must always make a selection of COOL Text. • If changing the default text, the operator will be presented with a message verifying the choice. • Last selection on Custom COOL must be a country. • Text wrapping shows up different on the screen. • Maximum length of text is limited to 110 characters. • Date format changes. • When COOL text data is sent to STEM, the "-" and ";" is replaced with spaces.
ENABLE COOL FEATURE	YES is the master switch that enables the COOL features in the scale. NO disables the COOL function from the scale.
TRACKING ENABLE	YES to apply internal reference tracking information for a specific COOL. Defaults to NO. Note: although internal this tracking number can be placed on labels.
AUTO COOL TEXT PRINT	When this switch is true, the default COOL statement is printed without operator input. The operator has the option of overriding the default manually.

FIRST-IN-LIST COOL TEXT	When this switch is true, the default COOL statement is the MRU. When the MRU is blank, the first-in-list is the default. When the switch is false, the first-in-list is the default. This switch is used only when the Auto COOL Print switch is true.
SAVE MERCHANDIZING DATA	Enable tracking of the printing of merchandizing graphics

PLU Options

From the Unit Setup screen (shown in Figure 3-1), touch PLU OPTIONS to configure PLU options. Touch the boxes to toggle the selections. YES means enabled or allowed and NO means disabled or not allowed. AVAILABLE means the key will display and NOT AVAILABLE means the key will not appear on the Touchscreen. When any of the Modify selections (Modify Use By Date, etc) are set to YES, the box they are displayed in will have a double line. Items that cannot be modified (set to NO) will have a single line box. See the notes below for MIXED NET WT. STATEMENT, MEMORY, OPERATOR TOTALS, and BATCH QUEUE. Default selections are shown below.

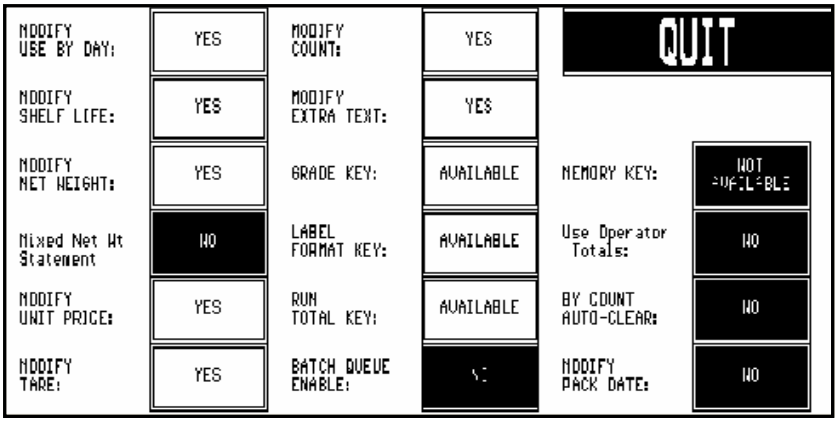


Figure 3-25: PLU Options Menu

Modify Use-By Date	Change or update an item's use-by date
Modify Shelf Life	Change or update an item's shelf life
Modify Net Weight	Change or update an item's net weight
Mixed Net Weight Statement	This function only takes effect when the scale is calibrated in pounds. When Mixed Net Wt Statement is set to NO, the net weight statement on a Standard Pack label will print in ounces and pounds (ex: NET WT. 56 oz (3.50lb)). When Mixed Net Wt Statement is set to YES, the net weight statement on a Standard Pack label will print in pounds and kilograms (ex: NET WT. 3.50 lb (1.59kg)).
Modify Unit Price	Change or update an item's unit price
Modify Tare	Change or update an item's tare weight
Modify Count	Change or update an item's count
Modify Extra Text	Change or update an item's extra text

Grade Key	Enable or disable the GRADE key
Label Format Key	Enable or disable the LABEL FORMAT key
Run Total Key	Enable or disable the RUN TOTAL key
Batch Queue Enable	Enable the unit to use the queue as a batch item for use in printing and/or global assignment of characteristics to a set of PLUs
Memory Key	The MEMORY Key toggles between: • NOT AVAILABLE - No Memory Key or function available. • LOCAL - Local memory available. The Ent/Mem, Subtotal, and Print Mem keys will be active. • DEPARTMENT - The department selection is also known as roving operator and allows an operator to use multiple scales in a department for the memory function. Using the Department settings requires operator numbers that must be set up in the SmartTouch® master or scale server. When DEPARTMENT memory mode is selected, the Ent/Mem, Subtotal, and Print Mem keys will be active.
Use Operator Totals	Toggle operator total functionality on or off
By-Count Auto Clear	Enable or disable the auto-clear functionality for By-Count processing
Modify Pack Date	Change or update the item's date of packaging

Verify Labels

VERIFY LABELS is used to print verification labels for the PLUs in a department.

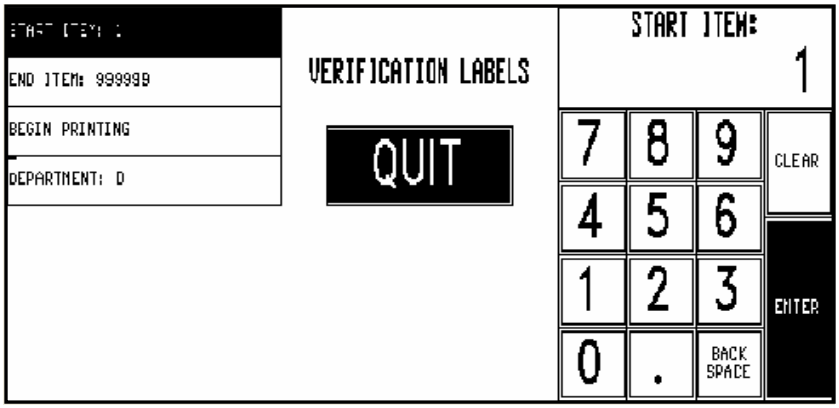


Figure 3-26: Verify Labels Screen

Wireless Setup

Note: If you are unfamiliar with some of the terms and technologies used here, many sources of information are available on the internet.

This menu is used to set up an installed wireless radio called WGB3 (Work Group Bridge) for wireless connection to an Ethernet network. The main Wireless setup menu has two screen.

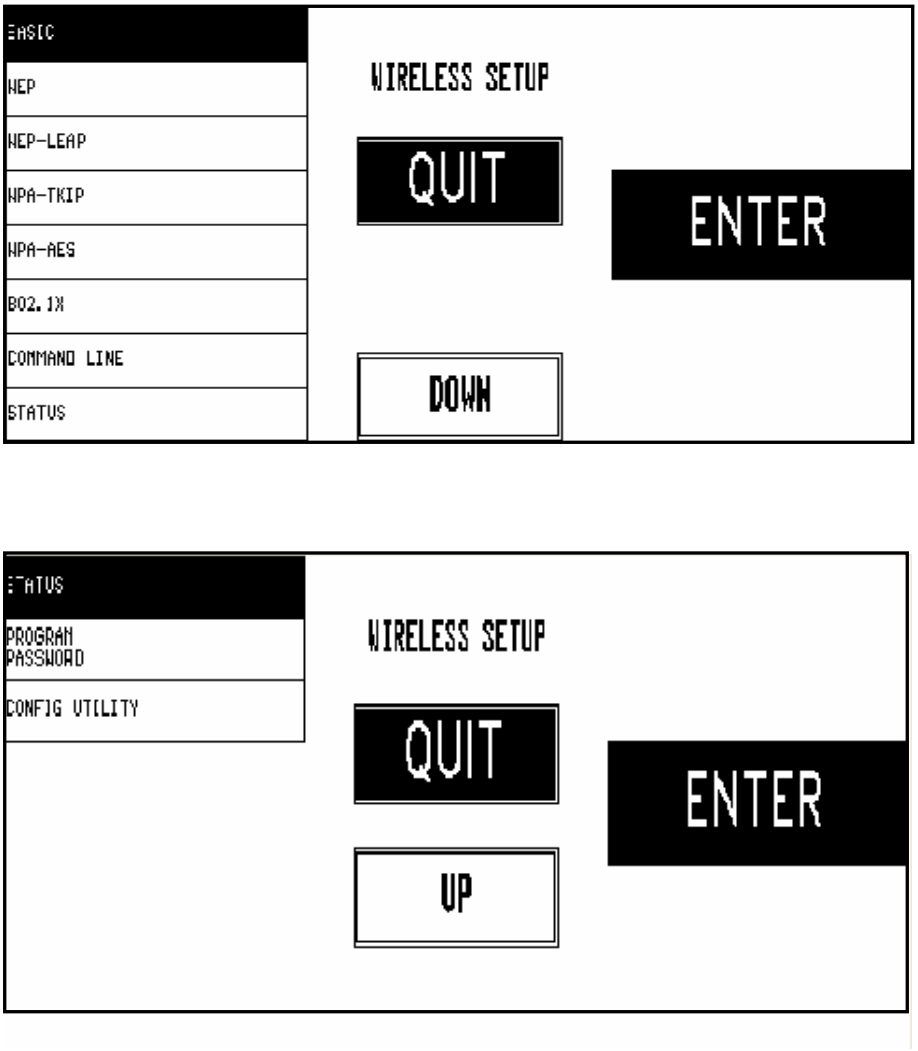


Figure 3-28: Main Wireless Setup Screens 1 and 2

Highlight a function from the list on the left and hit ENTER to get specific details for that selection.

The following sections describe the different options available under WIRELESS SETUP.

Basic

Touch the BASIC box and press ENTER to configure the basic wireless setup. The BASIC wireless setup screen is shown below.

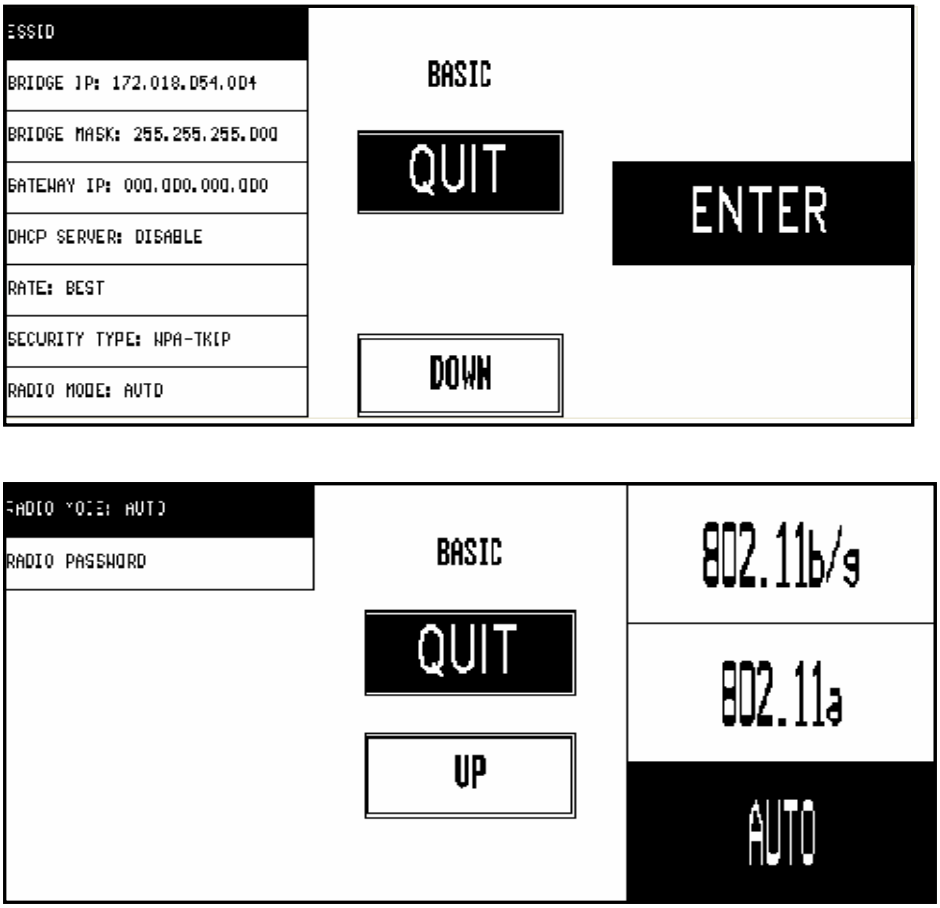


Figure 3-29: BASIC Wireless Setup Screens 1 and 2

ESSID	Extended Service Set ID. The ESSID is the identifying name of a wireless network that identifies a wireless access point. ESSID is one type of SSID (the other being BSSID).
BRIDGE IP	IP address for the internal WGB3 card.
BRIDGE MASK	Mask for the WGB3 card.
GATEWAY IP	Enter if IP is needed for a gateway router.
DHCP SERVER	Select ENABLE if a DHCP server is available and the WGB3 card is to connect and obtain an address automatically. For manual entries of the IP address, this should be set to DISABLE.
RATE	Select the maximum data rate for wireless communication. For automatic selection, sellect BEST.
SECURITY TYPE	Select from WEP, TKIP, and AES security modes. Select OPEN for no security.
RADIO MODE	Select AUTO, 802.11a, or 802.11b/g. AUTO detects the access point mode automatically. 802.11a is for 5 gHz radios and 802.11 b/g selects 2.4 gHz.
RADIO PASSWORD	Enter a password to prevent others from modifying the radio settings.

WEP

Touch the WEP box and press ENTER to set up WEP security. WEP stands for Wireless Equivalent Privacy and is the least secure of the wireless security protocols.

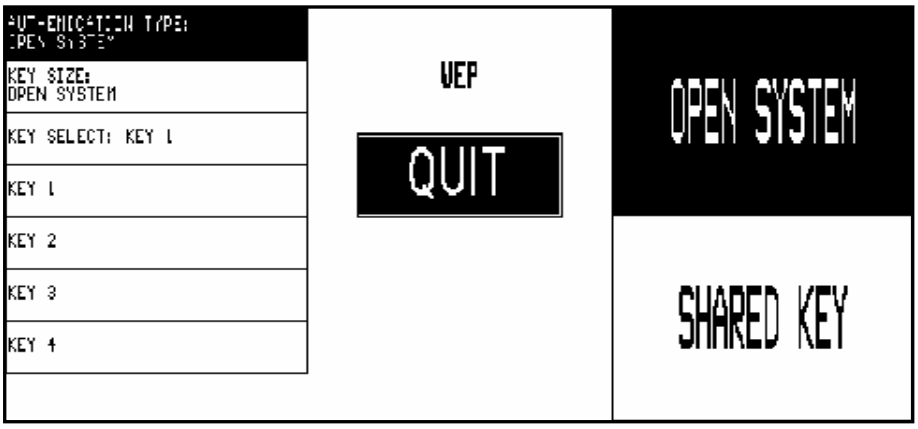


Figure 3-30: WEP Security Setup Screen

AUTHENICATION TYPE	Select OPEN or SHARED. Open key authentication involves supplying the correct ESSID. With shared key authentication, the AP sends the client device a challenge text packet that the client must then encrypt with the correct WEP key and return to the AP. If the client has the wrong key or no key, authentication will fail and the client will not be allowed to associate with the AP. Shared key authentication is not considered secure, because a hacker who detects both the clear-text challenge and the same challenge encrypted with a WEP key can decipher the WEP key. With open key authentication, even if a client can complete authentication and associate with an AP, the use of WEP prevents the client from sending data to and receiving data from the AP, unless the client has the correct WEP key.
KEY SIZE	Select OPEN SYSTEM, 40 BIT, or 128 BIT key length.
KEY SELECT	Select which key to use as a default.
KEY 1-4	Enter the key numbers in 1-4.

WEP-LEAP

If the installation is using a LEAP authentication security process, the WEP-LEAP section must be configured. WEP-LEAP stands for Wireless Equivalent Privacy (WEP) - Lightweight Extensible Authentication Protocol (LEAP).

From the WIRELESS SETUP screen, touch the WEP-LEAP box and press ENTER.

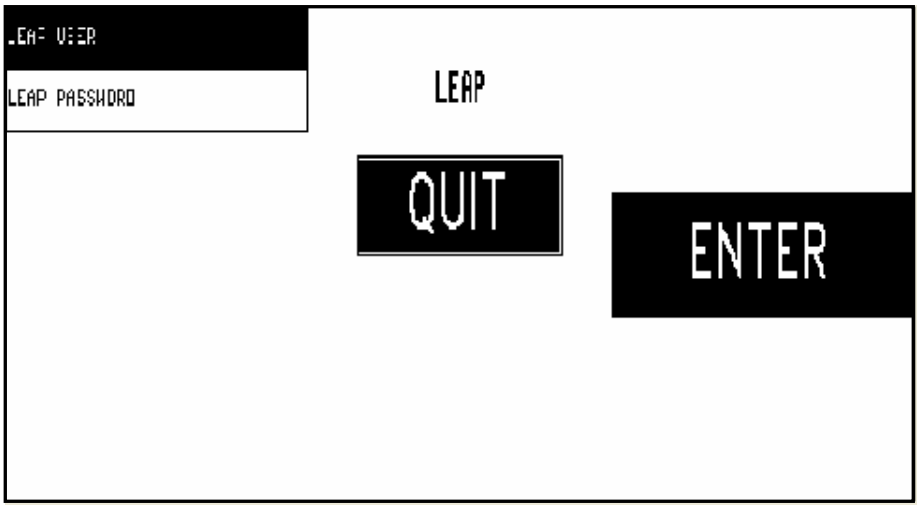


Figure 3-31: WEP Security Setup Screen

LEAP USER	User ID if using LEAP security.
LEAP PASSWORD	Password if using LEAP security.

WPA-TKIP

An encryption key that's part of WPA. TKIP stands for Temporal Key Integrity Protocol. When 802.1X and PEAP are combined with TKIP, dynamic WEP keys can be delivered to authenticated stations. Not only does every station get its own encryption keys, but those keys have a finite lifetime, after which the station must either be re-keyed or terminated. An attacker might still capture encrypted frames, but there is less traffic to analyze, it is harder to crack the key, and a compromised key is much less useful.

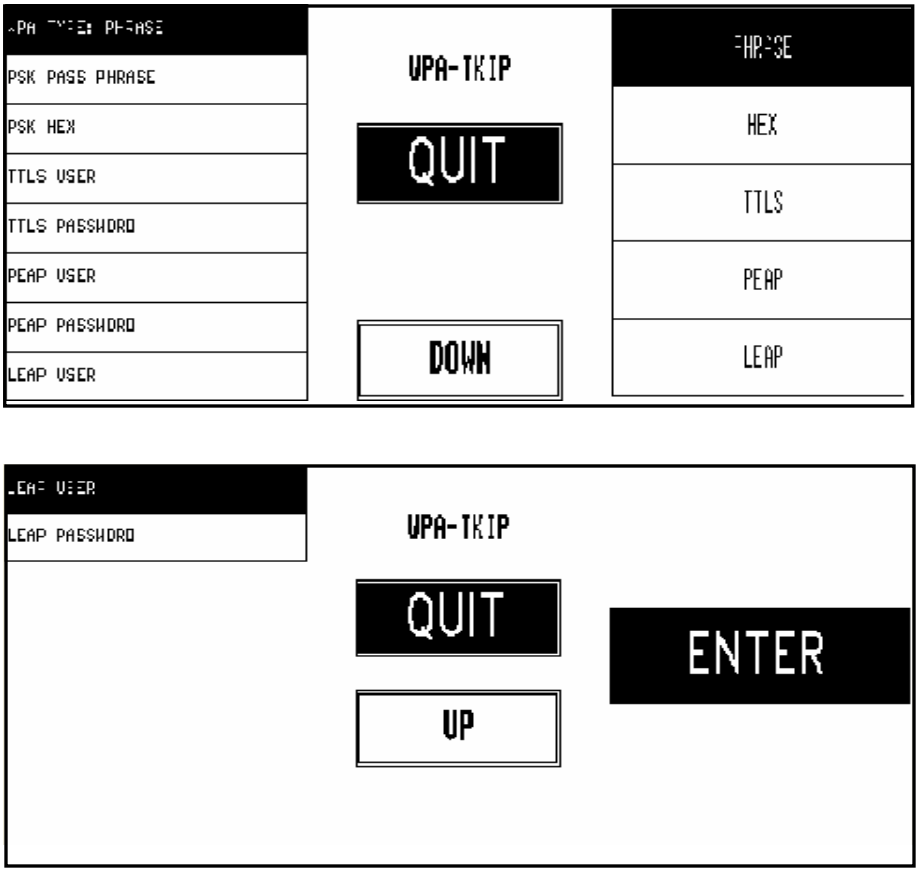


Figure 3-32: WPA-TKIP Setup Screens 1 and 2

TKIP TYPE	Select the protocol for the TKIP encryption using PHRASE, HEX, TTLS, PEAP or LEAP. **PHRASE -** One or more words you must enter to authenticate both sides of the connection when pairing Bluetooth devices. Phrase allows entry of more than a single word to provide enhance security. **HEX -** Allow entry of a hex code rather than words in a phrase. **TTLS -** (Tunneled Transport Layer Security). 802.1x restricts access to the Datalink layer of a network by only permitting access to the network if a user proves their identity through the EAP (Extensible Authentication Protocol) mechanism. There are many forms of EAP, but the two forms of EAP that is most appropriate for Level 2 security is PEAP (Protected EAP) and TTLS (Tunneled Transport Layer Security). **PEAP -** (Protected EAP). PEAP is a protocol that carries authentication data. TTLS (Tunneled Transport Layer Security). A method of securing an 802.1X session within an encrypted tunnel to protect credentials used for logging in. PEAP stands for Protected Extensible Authentication Protocol. **LEAP -** (Lightweight Extensible Authentication Protocol). LEAP is based on the 802.1x standard and uses the Extensible

	Authentication Protocol (EAP) between the wireless client and the authentication server. LEAP provides dynamic per-user, per-session WEP keys every time the user authenticates to use the wireless network.
PSK PASS PHRASE	Preshared Key passphrase.
PSK HEX	Preshared Key hex code.
TTLS USER	User ID if using TTLS.
TTLS PASSWORD	Password if using TTLS.
PEAP USER	User ID if using PEAP security.
PEAP PASSWORD	Password if using PEAP security.
LEAP USER	User ID if using LEAP security.
LEAP PASSWORD	Password if using LEAP security.

WPA-AES

A newer extremely strong encryption standard. AES stands for Advanced Encryption System.

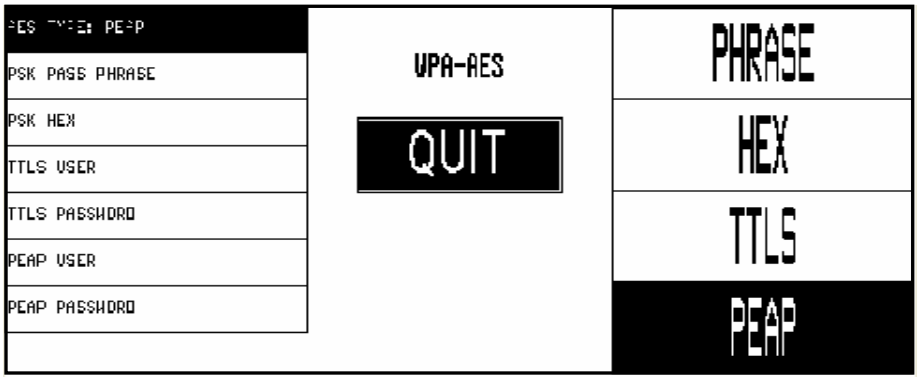


Figure 3-33: WPA-AES Security Setup Screen

AES TYPE	Select the protocol for the AES encryption using PHRASE, HEX, TTLS, or PEAP. **PHRASE -** One or more words you must enter to authenticate both sides of the connection when pairing devices. Phrase allows entry of more a single word to provide enhance security. **HEX -** Allow entry of a hex code rather than words in a phrase. **TTLS -** (Tunneled Transport Layer Security). 802.1x restricts access to the Datalink layer of a network by only permitting access to the network if a user proves their identity through the EAP (Extensible Authentication Protocol) mechanism. There are many forms of EAP, but the two forms of EAP that is most appropriate for Level 2 security is PEAP (Protected EAP) and TTLS (Tunneled Transport Layer Security). **PEAP -** PEAP (Protected EAP). PEAP is the protocol that carries authentication data. TTLS (Tunneled Transport Layer Security). A method of securing an 802.1X session within an encrypted tunnel to protect credentials used for logging in. PEAP stands for Protected Extensible Authentication Protocol.
PSK PASS PHRASE	Preshared Key passphrase.
PSK HEX	Preshared Key hex code.
TTLS USER	User ID if using TTLS.
TTLS PASSWORD	Password if using TTLS.
PEAP USER	User ID if using PEAP security.
PEAP PASSWORD	Password if using PEAP security.

802.1x

If the installation is using a Radius Server, the 802.1x section must be configured. From the WIRELESS SETUP screen, touch the 802.1x box and press ENTER to set up the 802.1x security.

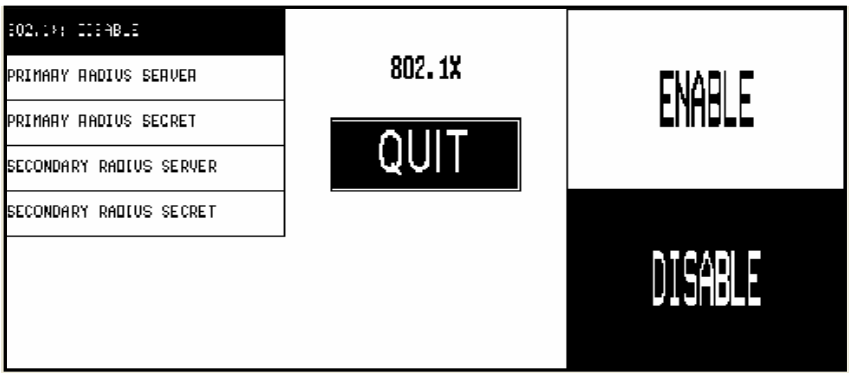
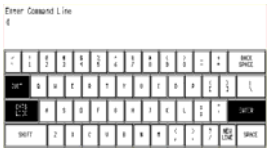
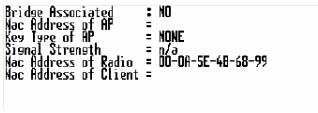


Figure 3-34: 802.1X Setup Screen



COMMAND LINE

Command line is used to enter special commands not covered in the other menu items. When selected a keyboard will appear for alph-numeric special commands entries.



STATUS

Status will display the wireless statistics.

PROGRAM PASSWORD

Not normally used. Used to change the password in the WGB3 radio and the UCST. When selected a numeric keypad will appear for password to be entered.
Note: this password is only for the Radio feature, it does not affect any additional UCST passwords (ex. Operator).

CONFIG UTILITY

Use this selection to write the configuration data for the radio to BRAM. WinDataBack can be used to backup the file to a PC for archive purposes or to copy to other UC-ST scales with radios.

Select UPDATE RADIO CONFIG FROM BRAM to update the radio setup from this file. Select BACKUP RADIO CONFIG To BRAM to backup the local radio setup or select RESTORE TO DEFAULTS to return settings to system defaults.

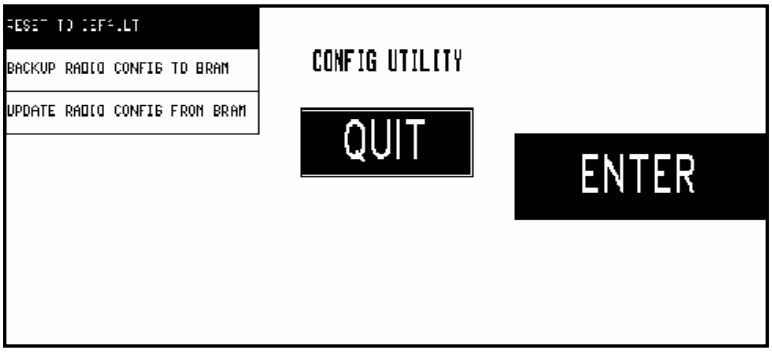


Figure 3-35: Wireless Config Utility Screen

Change Department

From the Unit Setup screen (shown in Figure 3-1), touch CHANGE DEPARTMENT to select a different department. The current department will be double boxed. To select a new department, touch it. To exit without changing the department, touch QUIT. The department information is updated when a new department is selected.

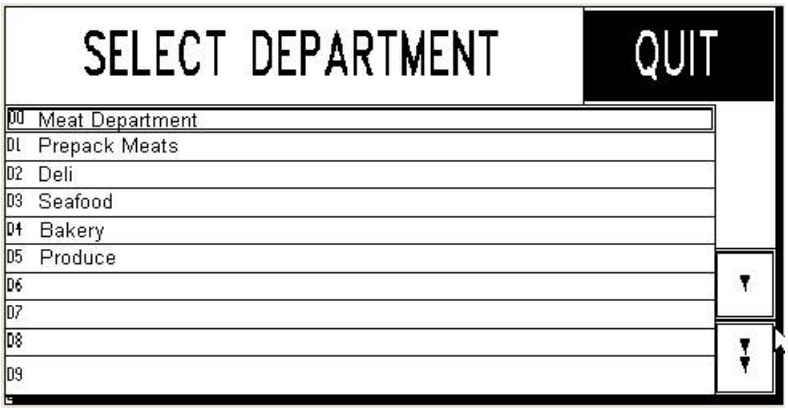


Figure 3-36: Select Department Screen

Program Password

PROGRAM PASSWORD is used to change the password to limiting access to the Unit Setup Screen. Type in the new 1-4 digit password number, then touch ENTER. To disable the password function, touch CLEAR then ENTER. *(For service use, to bypass the password, press the unit Setup Switch when asked for the password.)*

Set Beeper Duration

From the Unit Setup screen, touch SET BEEPER DURATION to adjust the duration of the Touchscreen beeper sound.

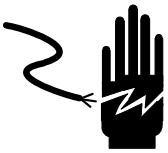
Type in a value (0-10), with 0=no beep and 10=long beep, then touch ENTER.

METTLER TOLEDO

For your notes

4 Service

Troubleshooting Guide



WARNING

ONLY PERMIT QUALIFIED PERSONNEL TO SERVICE THIS EQUIPMENT. EXERCISE CARE WHEN MAKING CHECKS, TESTS AND ADJUSTMENTS THAT MUST BE MADE WITH POWER ON. FAILING TO OBSERVE THESE PRECAUTIONS CAN RESULT IN BODILY HARM.

Following is a list of symptoms that could occur, and the recommended action to correct the problem.

General Scale Symptoms

General Scale Symptoms	Solution
Scale inoperative/Blank Display.	1. Check LCD Contrast Adjustment. 2. Check Power Supply Voltage. 3. Check Main PCB.
Blank Touchscreen.	1. Check LCD Contrast Adjustment. 2. Check Power Supply 3. Check Main PCB voltages. 4. Test LCD voltages.
Blank Customer Display.	1. Check +24 VDC supply voltage on Main PCB. If the +24 VDC is outside the acceptable range or zero, replace the Main PCB. (Note: printer must be connected for this test.) 2. Check Customer Display. If voltages are good, replace Display PCB.
Backlight is dim or not working on LCD Display.	1. Check Connectors from Backlight to Main PCB. 2. Refer to Troubleshooting LCD Display Section.
Scale won't zero (Displays "EEEEEE" in weight field.	1. Check platter and spider for obstructions. Turn power off, and then back on. 2. Check Motion Readings setting in Calibration Menu. Zero setting will cause this symptom. 3. Re-calibrate.
Erratic or inconsistent weight	1. Check platter and spider for obstructions.
Losing Unit setup data (ID, calibration, label formats, time, etc.)	1. Check Main PCB voltage at test points. 2. Check External Battery Voltage. Replace battery if voltage is below 4.00 volts. 3. Replace Main PCB.

Ethernet Networks

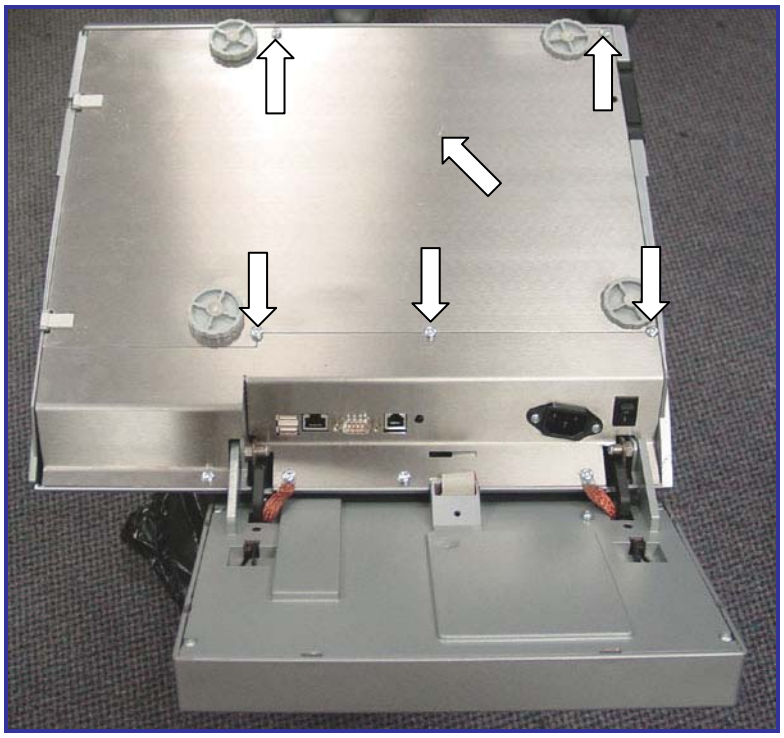
Ethernet Networks	Solution
One or more Ethernet Satellites offline.	1. Are other clients online? 2. Is the hub link light on? Check the hub and any RF nodes especially if all scales served by one hub are off line. 3. Check polarity of patch cable. The patch cable from Hub to scale must be a straight through UTP patch cable. 4. Check for duplicate IP on another scale.
Hub link light blinking or off. (Hub to Node)	1. Is the Patch Cable connected at the hub and node? 2. Is the correct patch cable used? The cable must be straight through from hub to node. 3. Remove power to hub for 30 seconds, and then reconnect power. 4. Plug the patch cord into a different port. If the link is good on another port, the hub may be damaged.
Hub link light is blinking or off. (Hub to Hub)	1. Is the Patch Cable connected at both hubs? 2. Verify the correct patch cable is used. Hubs with an internal crossover (crossover ports are sometimes marked with an X), an uplink port, or a switchable port use a straight through patch. Hubs without any crossover capability use a crossover patch cable. 3. Remove power to both hubs for 30 seconds, and then reconnect power. 4. Replace the hub(s).
Hub Partition light is on.	1. This indicates a problem with the node or wiring between the port and the node. 2. Remove power to the hub and node for 30 seconds, and then reconnect power. 3. Plug the node into a different port. 4. Replace the patch cable. 5. Verify cable is not running close to a high EMI source (electrical magnetic interference). 6. Troubleshoot the scale.
Hub Collision light is on.	1. Indicates two or more nodes are attempting to transmit at the same time causing a "collision". 2. Some collision is normal and the light may turn on briefly from time to time. If the light stays on first check the patch cables from the hub to the nodes. Use of a crossover instead of straight through patch cable can cause this condition. 3. Remove power to all of the scale, and then reconnect power to each one at a time to isolate which scale may be causing this condition.

Printing Problems

Printing Problems	Solution
Printer won't deliver a label.	1. Check Take Label Sensor for obstructions. 2. Check harnesses from printer to Main PCB. 3. Check Label Stepper Motor and drive gears. 4. Replace Printer PCB.
Incorrectly indexes labels.	1. Check label installation. Verify that the label guides are set to correct width. 2. Check for a label stuck in Gap Sensor. 3. Check label format and label size. 4. Clean Gap Sensor lens. 5. Check and clean platen roller, stripper bar, and delivery path Using MT Cleaning Pen P/N 082287020. 6. Adjust Offset Length. 7. Replace Gap Sensor. 8. Replace Printer PCB.
Labels dark or missing dots.	1. If labels are printed correctly, but are excessively dark, check the Label Printer Print Speed/Density setting in Unit Setup, under Printer Setup. 2. If the labels are streaked by lines from top to bottom, replace the Printhead. 3. If characters are cut off, check label format programming, including Offset Length. If OK, replace Printhead.
Labels are excessively light or dark.	1. Check Print Speed and Density Setting in Unit Setup, under Printer Setup. 2. Check with other known good label stock. 3. If light print, check and clean printhead resistor line and platen. 4. Check printhead harness for loose wires. 5. Check Power Supply voltages. If OK, replace Printhead.
Print on the label is mottled with light spots.	1. Check with other known good label stock. 2. Check and clean printhead resistor line and platen. 3. Replace printhead.
Labels not stripping correctly.	1. Check with other known good label stock. 2. Check label format programming and Eject length. 3. Check stripper bar for wear. 4. Check Take Up roller/motor. 5. Check set screws on Take Up Motor Gear.
Labels printed even if one is not yet taken.	1. Check setting of stripped/un-stripped option in Printer Setup. 2. Check Label Taken Sensor. 3. Check Printer PCB.
Out of labels errors.	1. Make sure labels are correctly threaded through the Gap Sensor. 2. Clean / Check Gap Sensor. 3. Adjust Image offset. 4. Replace Gap Sensor. 5. Replace Printer PCB.
One side is printing lighter.	1. Check / Clean print head resistor line platen 2. Check that print head steadies platen evenly, if not parts may be bent, or fasteners may be loose.

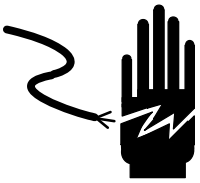
Access to Components

To gain access to the Power Supply or Main PCB, the bottom panel must be removed. Using a T20 Torx driver, remove the five screws holding the bottom cover to the base.



Power Supply

The Power Supply voltage can be checked at the Main Board connector. This will check both the power supply and the harness to the Main Board. This harness supplies power for the CPU Board. (Note: the Printer and the Main PCB must be connected to run this voltage check.)



WARNING

ONLY PERMIT QUALIFIED PERSONNEL TO SERVICE THIS EQUIPMENT. EXERCISE CARE WHEN MAKING CHECKS, TESTS AND ADJUSTMENTS THAT MUST BE MADE WITH POWER ON. FAILING TO OBSERVE THESE PRECAUTIONS CAN RESULT IN BODILY HARM.

First, turn the power switch OFF. Remove the bottom cover of the scale to allow access to the Main PCB and Power Supply. Next, turn the power switch ON. Insert the multimeter probes in the connector as shown on the following page to check the supply voltage for +12VDC and +5VDC. The Black wires are ground and any can be used. Refer to the Printer Service Section to check for the +24VDC supply to the Printer PCB.

If either voltage is zero or out of tolerance, replace the Power Supply PCB.

NOTE: If jumper is removed, unit will not operate.

22006146
Jumper Required

Figure 4-1: Power Supply PCB

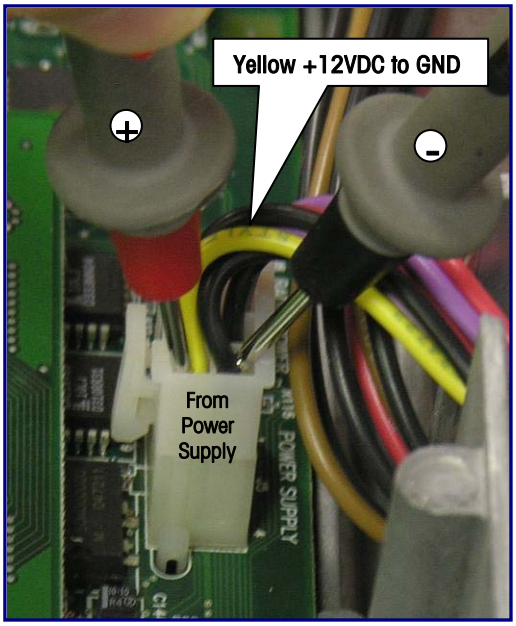


Figure 4-2: (+12VDC Range: 11.5 VDC to 14.5 VDC)

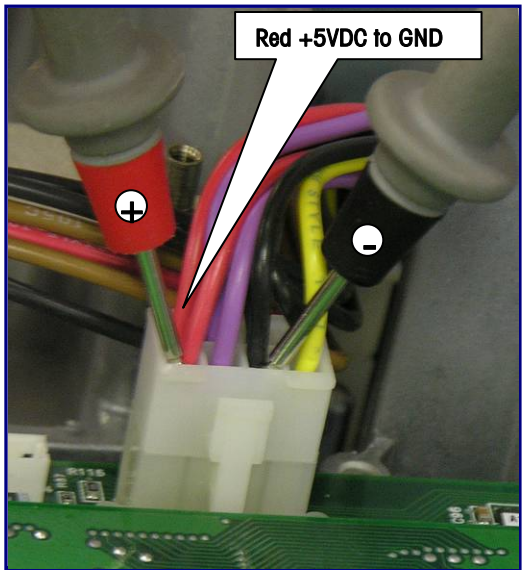
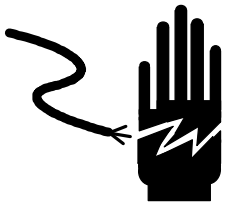


Figure 4-3: (+5VDC Range: +4.5 VDC to +5.5 VDC)

Main PCB and Memory PCB



WARNING

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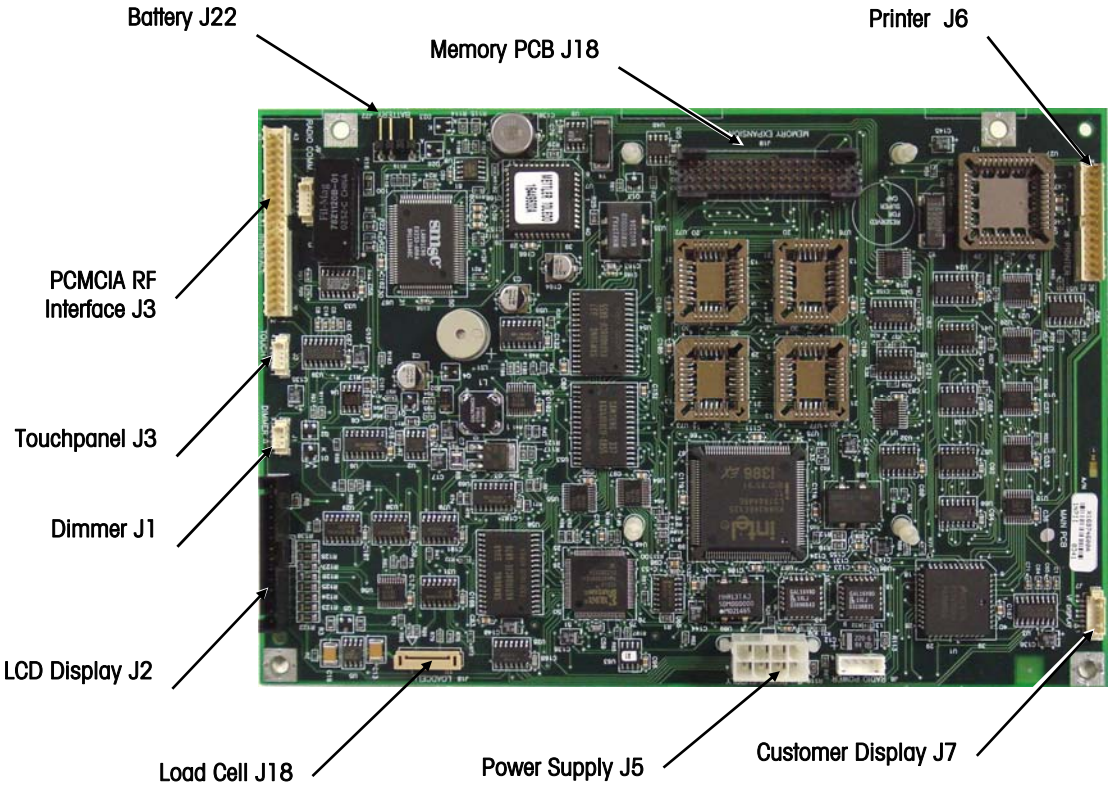
Main PCB

Shown below is the Main PCB and the external connections on the PCB.



Note: If the Main PCB is replaced, the unit must be flashed with software.

Figure 4-4: Main PCB Connector Locations

Memory PCB

The Memory PCB plugs into the Main PCB at J18 and is secured by standoff clips. If you need to change the Memory PCB, first backup any data needing to be saved, then disconnect power to the UC-ST and replace the board. The Memory PCB contains a Supercap that will supply power to the onboard RAM if the battery needs to be disconnected for a short time or if the Memory PCB needs to be disconnected from the Main PCB.

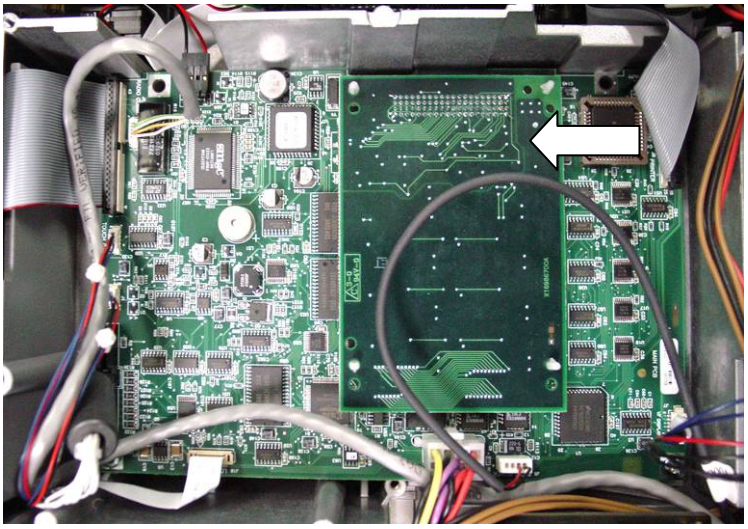


Figure 4-5: Memory PCB

Main PCB Battery

The Main PCB Battery is used to supply power to the onboard RAM and to the Memory PCB. The battery supplies +4.5 VDC to the Main PCB. The Memory PCB contains a Supercap that will supply power to the onboard RAM if the battery needs to be disconnected for a short time.

The battery is secured to the case using Velco fasteners. To replace the battery, disconnect from the Main PCB at J22 and separate the battery from the Velcro mounting pad on the case.

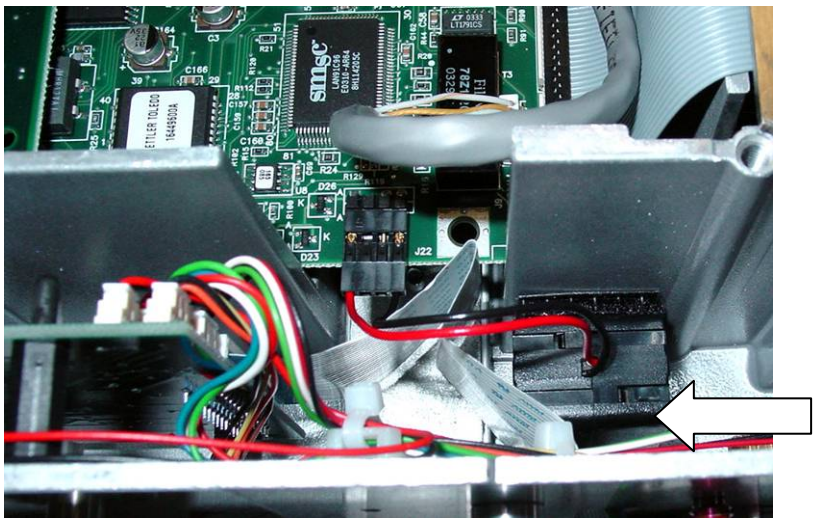


Figure 4-6: Main PCB Battery

Operator Display Repair / Replacement

To remove the complete keyboard and pivot assembly from the scale base, you must first remove the bottom covers as shown below. The arrows indicate the screws that must be removed.

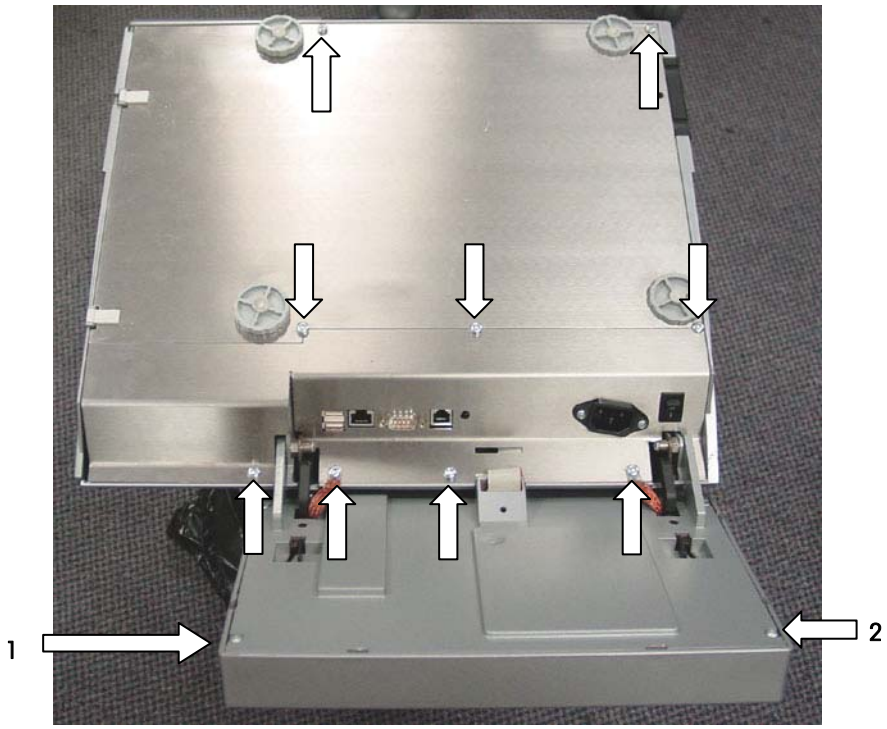


Figure 4-7: Removing Bottom Covers

To remove only the LCD/touchscreen assembly, inverter, or touchscreen driver PCB, remove only the screws located on the back of the LCD panel (screws **1** and **2** above). After removing the screws, use a flat blade screw driver to gently unlatch the six (6) front cover locking tabs and lift the front cover.

LCD Display

WARNING

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The LCD Display uses a CCFT (Cold Cathode Fluorescent Tube) to light up the LCD to provide a more readable display under low light conditions. Care must be taken when testing the display circuitry, as high AC voltage is used to power the CCFT. There are three electrical parts to the LCD assembly: 1) LCD Panel, 2) CCFT, 3) Inverter PCB.

Note: To adjust the contrast, first touch the HELP key area, located in the upper left corner of the Touchscreen. When HELP is displayed, touch the key marked **Adjust Cont**.

The LCD contrast is controlled by the -23 VDC supplied to the LCD by the Main PCB. The -23 VDC will range between -16 and -23 VDC, depending on the contrast setting. When the display is dark, the voltage will be near the maximum of -23 VDC. When the display is light, the voltage will be near the minimum of -16 VDC. If the voltage is zero or outside this range, and the contrast cannot be adjusted, replace the Main PCB. If the +5 VDC and the -23 VDC are within acceptable range, but the display is blank or extremely light/dark, replace the LCD Display PCB. Always exercise care when handling the LCD. If you replace the LCD, always pack the old LCD in the original factory container that the replacement part was shipped in.

The +5 VDC Supply Voltage and Contrast Control Voltage Test Points are shown below. To adjust the contrast, first touch the HELP key area, located in the upper left corner of the Touchscreen. When HELP is displayed, touch the key marked **Adjust Cont**. The contrast circuit can be checked at J2 on the Main PCB, as shown below.

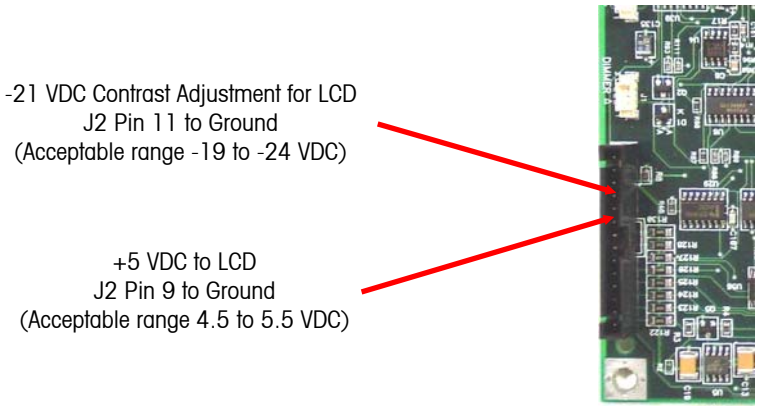


Figure 4-8: LCD Contrast/Voltage Test Points on Main PCB

If no activity is detected for approximately 10 minutes, a timer circuit signal drops the +5 VDC control line to +1.9 VDC. This in turn causes the Inverter PCB to lower the voltage output to the CCFT. The dimmer circuit can be tested at J1 on Main PCB.

The LCD CCFT is powered from a DC to AC Inverter PCB that converts a variable +5VDC input to a 380 VAC/40 kHz/5 mA output. (Note: Initial startup voltage is approximately 900 VAC). The Inverter PCB is located under the LCD Panel. If the backlight is not working, and the +5 VDC at the Main PCB checks good, the problem may be the Inverter PCB or the CCFT (Cold Cathode Fluorescent Tube.) The output voltage from the Inverter to the CCFT cannot be checked using a standard volt-ohm meter, since the unloaded voltage is approximately 1100 VAC RMS at 40 kHz. If the Inverter is suspected as defective, it is best to plug in a new backlit display assembly, or a new CCFT (which is available separately as P/N 64061061) to test the Inverter PCB. If the new CCFT does not light up, replace the Inverter PCB. The illustration below shows the LCD and CCFT.

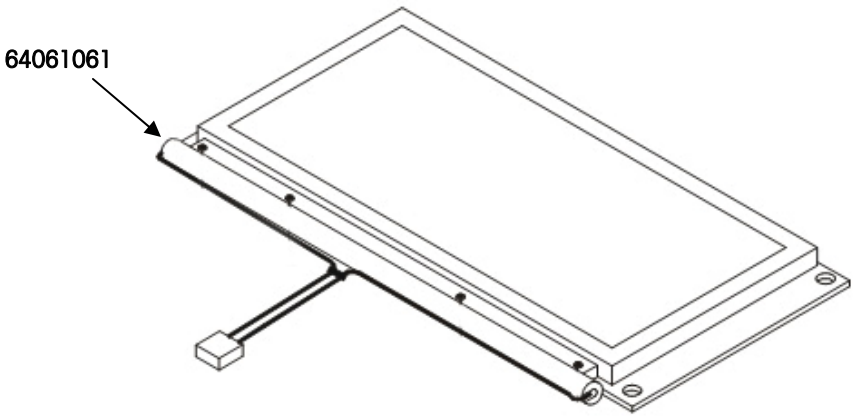


Figure 4-9: CCFT Replacement

REPLACEMENT

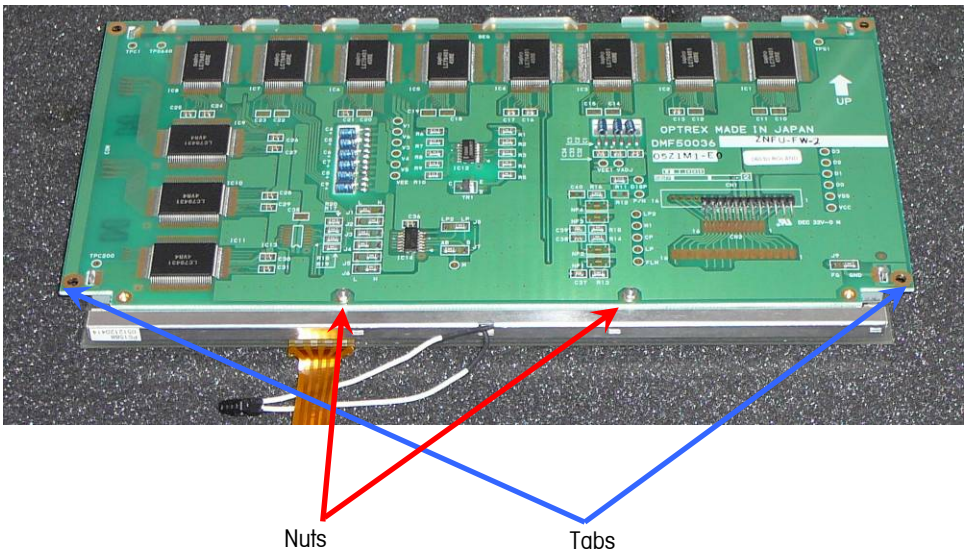
To **replace** the LCD, first turn the power switch to the off position, then disconnect the AC power cord from the outlet before proceeding. Remove the LCD Panel from the cover assembly. Disconnect the CCFT harness, touchscreen harness and LCD data harness. Install new LCD reversing previous steps.

REPAIR

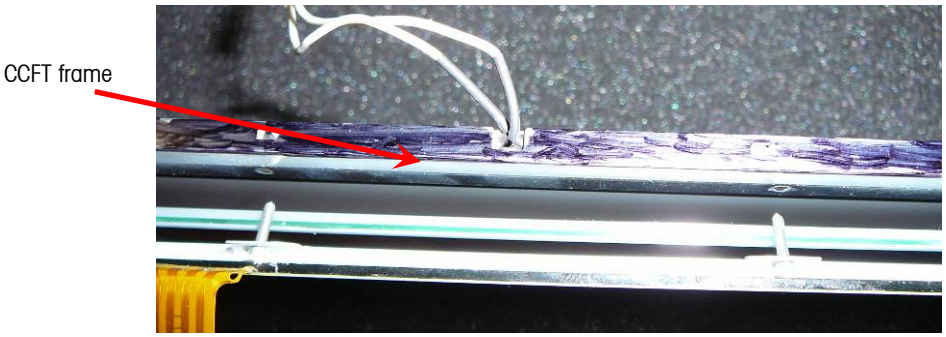
When the display is only dim, red or dark, **repair** the LCD instead of replacing the whole LCD/Touchscreen assembly using P/N 64061061, which includes both the CCFT and the diffuser assembled together.

1. Open the scale and remove the LCD from the front display as if it were being replaced.
2. Bend the 2 tabs straight to align with the slots of the PCB.

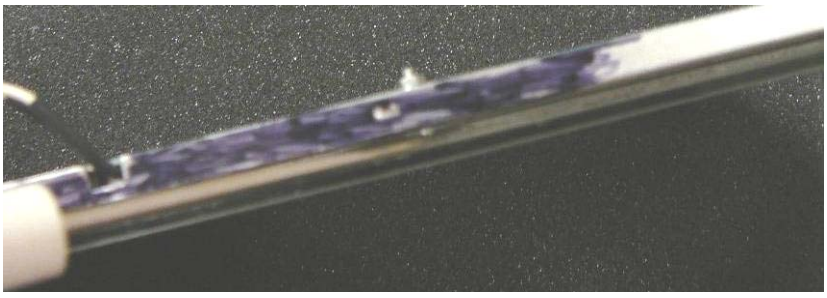
3. Loosen and remove the 2 nuts and washers. The screws are held captive by the touchscreen and the CCFT frame.



4. Carefully raise the backlight off of the 2 screws by pushing down gently on the ends of the screws and then pressing the CCFT frame upward. (CCFT frame is shown free of the screws.) Be careful not to damage the screw threads!

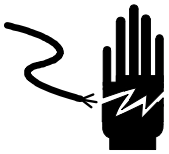


5. Gently lift the CCFT frame out of the LCD.
6. Slide the new CCFT frame into the LCD with the metal side towards the PCB; do not scratch the plastic diffuser on the captive screws. Use needle nose pliers (careful of the threads!) to guide the screws through the CCFT frame and PCB, press the parts together and bend the tabs back over the gold contacts.
7. Use a small flat bladed screwdriver to raise each screw off of the touchscreen glass, add the washer and nut, and finger tighten while holding the screw in place. Use a pair of pliers, a 4mm nut driver or wrench to finish tightening the nuts.



Customer Display

The customer display must be removed to check the voltage supply to the PCB.



⚠ WARNING

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Remove the bottom scale cover for access to the display mounting screw. First disconnect the display connector at J7.

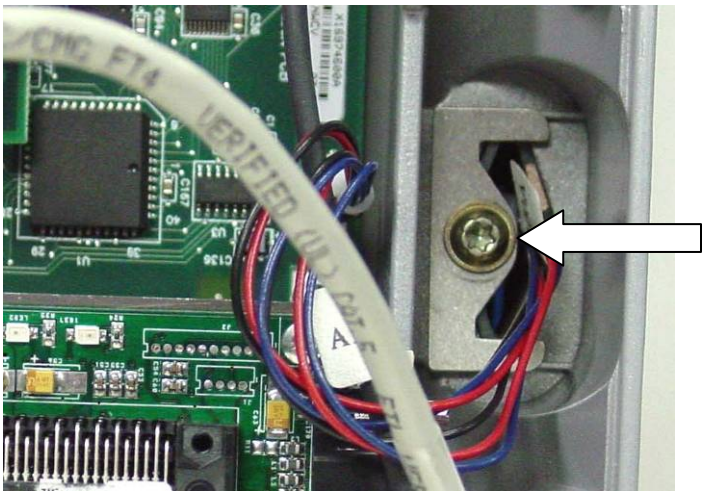


Figure 4-10: Display Removal

Next remove the mounting screw and lift the display assembly from the scale base. Remove the two screws on the bottom of the display.

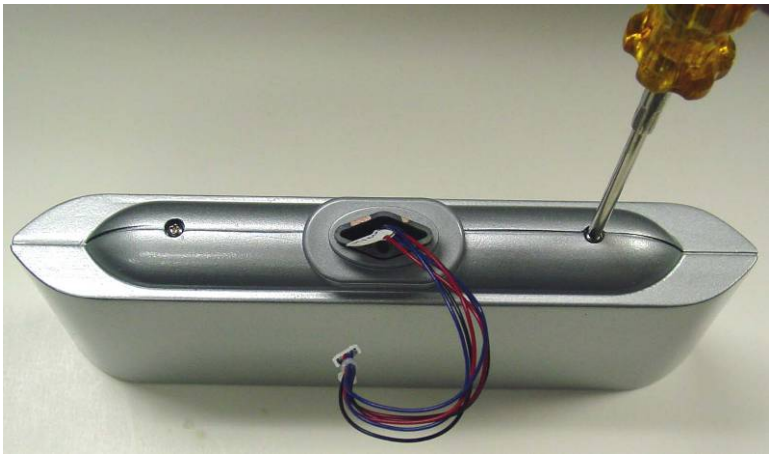


Figure 4-11: Display Case Screws

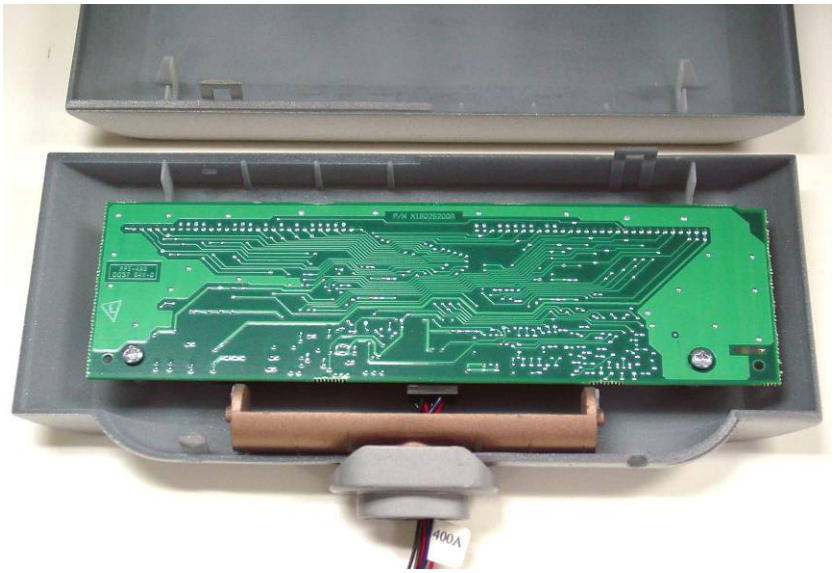


Figure 4-12: Display PCB

Left the rear cover up from the bottom and carefully detach from the top. Remove the two mounting screws and lift the Display PCB from the housing. Replace in reverse order.

Load Cell

Required Tools:
T30 Torx Driver
Torque Wrench

The Load Cell and Load Cell PCB are sold and replaced as a matched set. Both must be replaced if either is defective The Spider can be removed using a T30 Torx driver to remove the two top screws. When re-installing the spider, the screws should be tightened to 100 lbf.in (12.5 - 17 lbf.ft, or 17 - 23 N.m) with a torque wrench. If the Spider is removed or replaced it must be installed so it is square to the top cover assembly. If the Spider is replaced, the overload stops must be checked and adjusted to factory specifications as described in the section titled "Overload Stops".

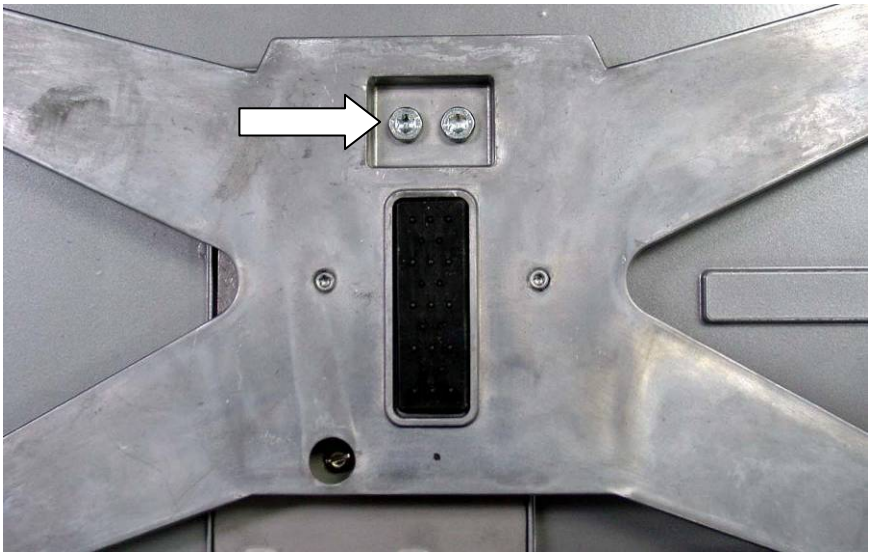


Figure 4-13: Spider Removal

Next, remove the T20 Torx (or slotted sealing screw) from the front plate and the T20 Torx securing the rear plate.

Note: If there is a seal on the sealing screw, make sure it does not interfere with or touch the spider or platter.

Figure 4-14: Access Plates Removal

Remove the cover plates. You can now replace the Load Cell PCB by disconnecting the two harnesses and removing the single mounting screw. If your new Load Cell does not have a ferrite on the ribbon cable, move the ferrite from the old load cell to the new load cell.

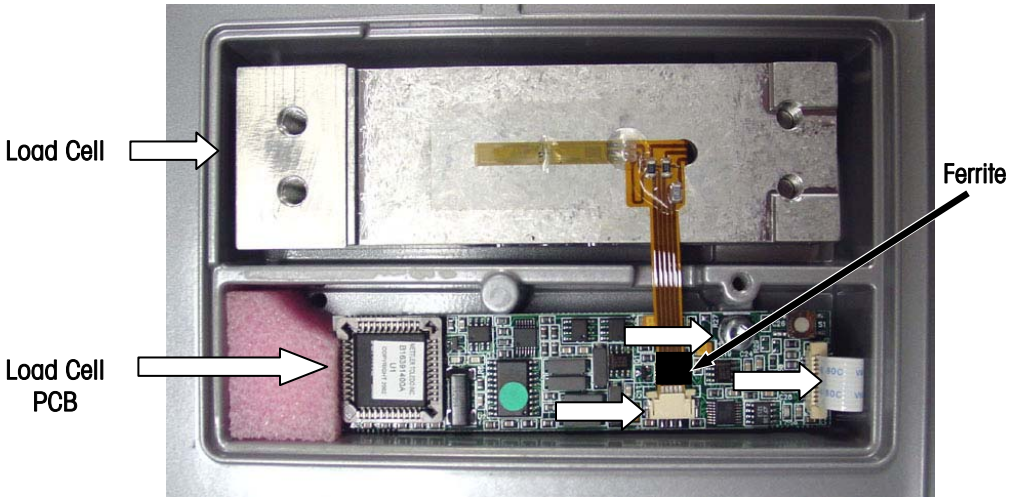
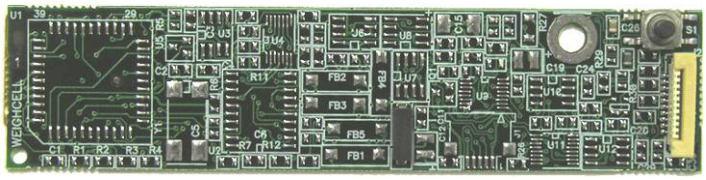


Figure 4-15: Standard - Load Cell and Load Cell PCB



Dead Deck - Blank PCB with Switch (17177100A)

To remove the load cell, you must first remove the six screws (see illustration below) securing the connector cover plate to the base.

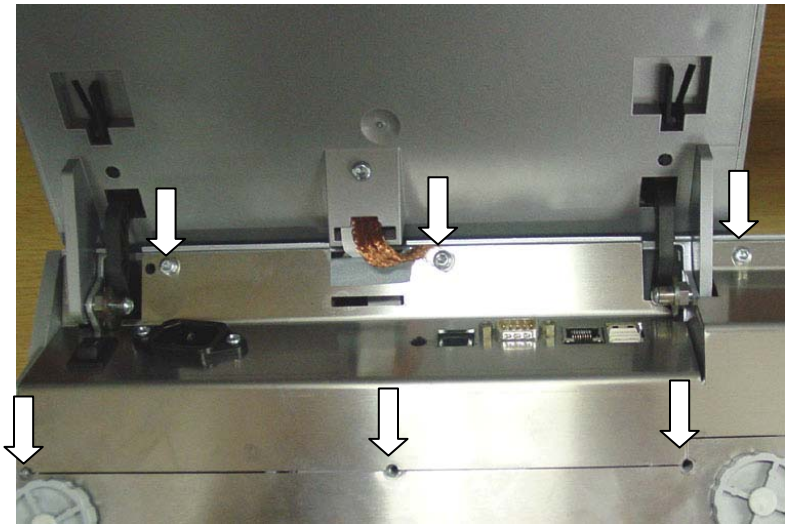


Figure 4-16: Bottom Cover Removal

Lift the connector panel up to allow access to the load cell screws. You can then remove the two lower T30 load cell mounting screws (see below). When installing the load cell, make sure it is parallel to the base as the screws are tightened.

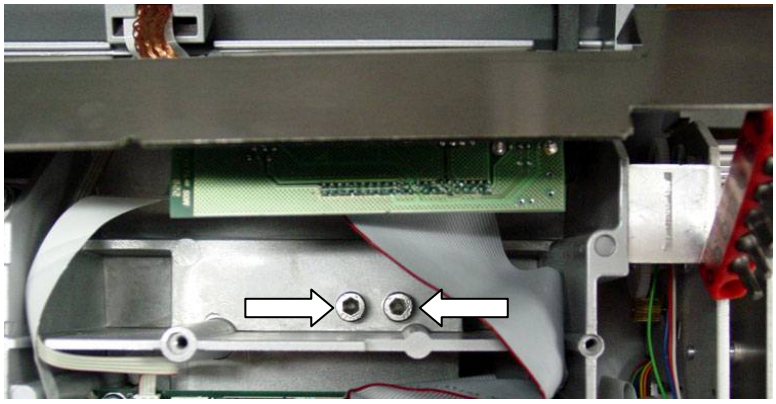


Figure 4-17: Lower Load Cell Mounting Screws

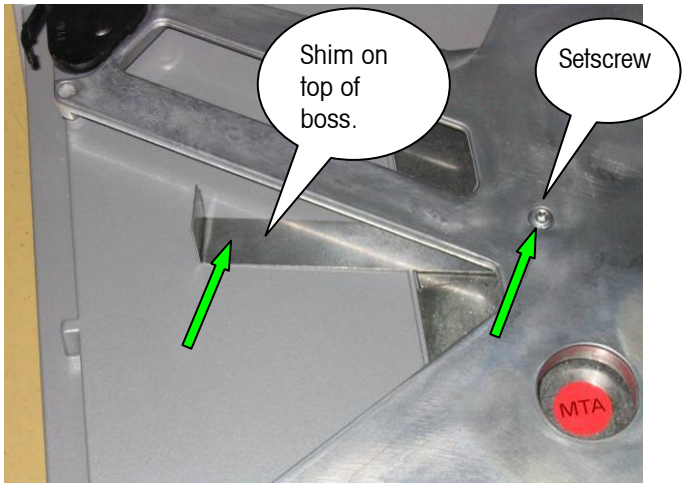
Anytime you remove or replace the Load Cell, you must recalibrate the scale and check the overload stops. The cap screws should be tightened to 100 lbf.in (12.5 - 17 lbf.ft, or 17 - 23 N.m) with a torque wrench.

Overload Stops

The overload stops must be checked if the spider or load cell is replaced. To adjust the stops you will need:

- 30 lb of test weight
- T15 Torx driver
- Shim or Feeler Gauge, 0.3mm or 0.012 in

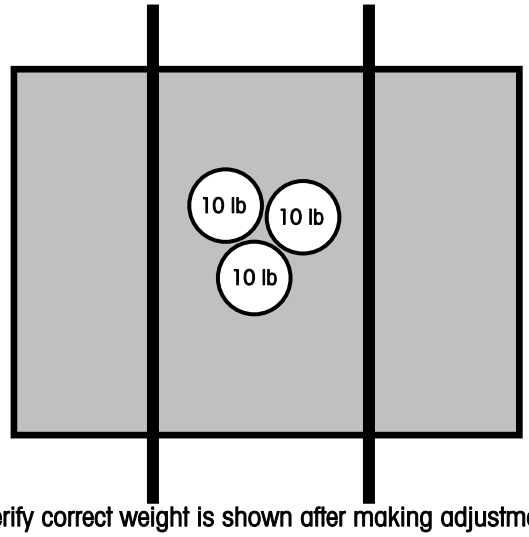
To adjust, remove the platter and install the gauge on top of the boss under the left screw as shown below. Using the Torx driver, turn the setscrew until slight contact is made with the shim. Perform the same procedure on the right overload.



Overload Stop Adjustment using a 0.3mm/0.012 inch Shim

Figure 4-18: Overload Stop

After making any adjustments, place 30 lb of test weight within the area shown between the black lines in Figure 4-17 and verify the scale is showing the weight correctly. If less than 30 lb is shown, recheck your adjustments and verify with the test weight.

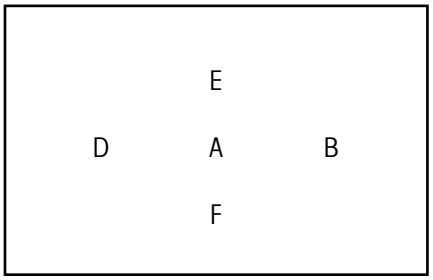


Verify correct weight is shown after making adjustments.

Figure 4-19: Check Weight

Shift Test

The shift test should be performed after calibration. Place test weights equal to 50% of scale capacity on the scale platter at point A (as shown in the illustration below). Continue with the test at points B through E. Points B through E are midway between the center of the platter and the edge of the platter. The NIST H-44 acceptance tolerance is ±0.015 lb of any of the points B through E compared to A.



Shift Test Points

If the scale fails the specified tolerance at one or more test points, check the overload-stop screws for proper adjustment and the top cover for proper seating and possible interference with sub-platter. The Spider and load cell spacer must be properly centered to avoid interference with top cover and load cell cover. If none of the above conditions exists, replace the load cell, recalibrate the scale, and recheck the shift.

External Load Cell

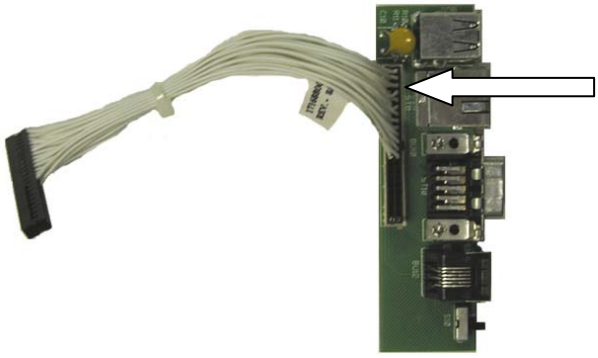
Load Cell PCB

Dead Deck	17177100A
Standard	42101393

Front Connector Interface Cable (I/O PCB)

Remote Scale	17168800A
Interface Scale	22004715

Note: UC-ST type **F, K** are shipped without IF Kit and must order a KOP to connect with 8270. UC-ST Type **G, L** are shipped with IF Kit.



I/O Interface PCB shown with 17168800A connected for use with remote 8270 operation

External Cable UCST to 8270

External Cable UCST to 8270	17168900A

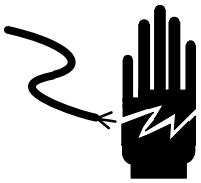
Jumpers 8270

W1	Short
W2	Open
W3	Open
W4	Short

For more information on the 8270 see **Service Manual B14716000A**.

Printer Service

Replacing Components



⚠ 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.

⚠ CAUTION

OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES.

The UC printer is easily removed for service without requiring any disassembly of the unit. Disconnect power to the UC by turning the power switch to OFF and unplugging the power cord from the outlet. Open the printer door and pull the printer out until it contacts the stop tab (see arrow below). Using a screwdriver, press down on the stop tab while continuing to pull out on the printer.

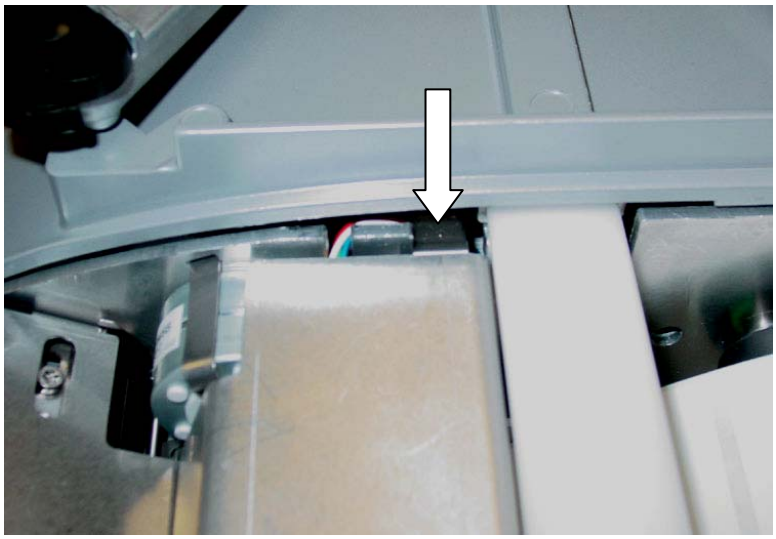


Figure 4-20: Printer Stop Tab

Continue to pull the printer out for access to the internal components.

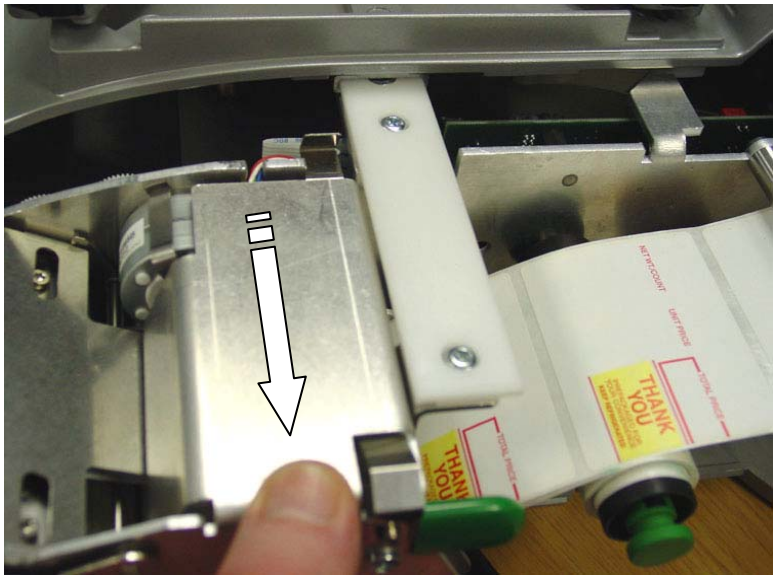


Figure 4-21: Printer Slide Rail

The printer can be completely removed from the scale and pivoted at the rear to allow full access to the components.

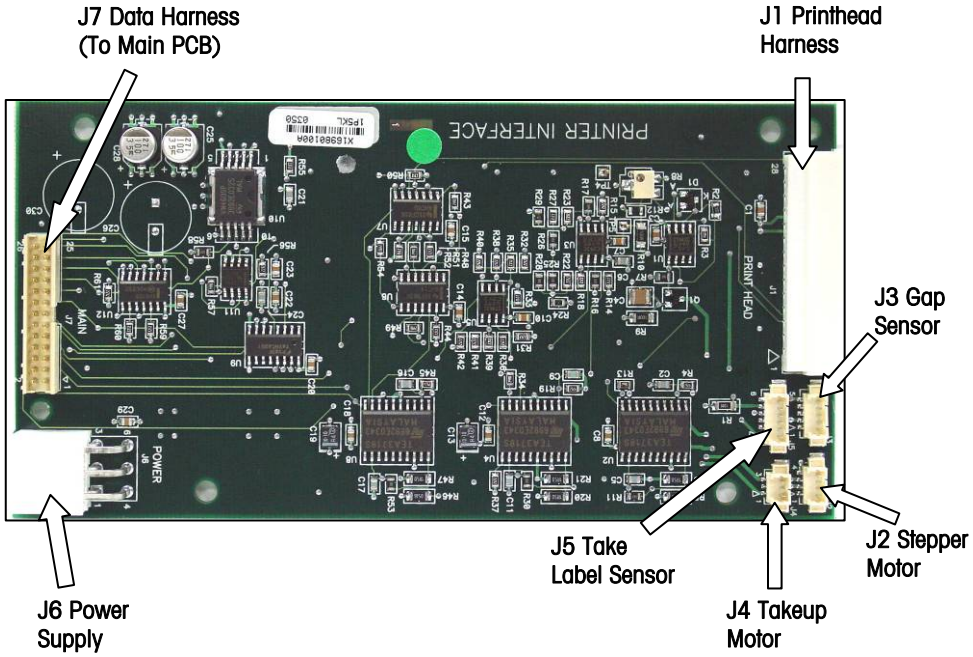


Figure 4-22: Printer PCB Connectors

To remove the Printer PCB, first disconnect the harnesses. Next, compress the locking clips on each of the four standoffs and slide the PCB off of the standoffs.

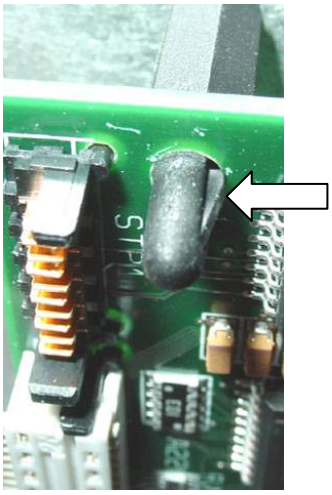
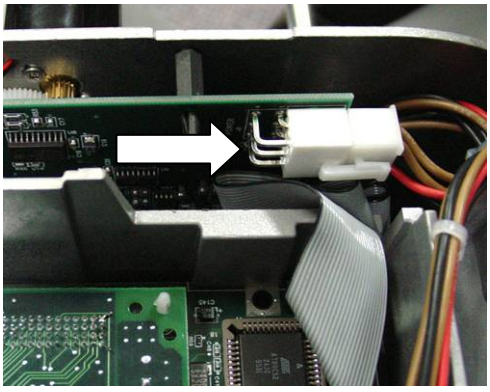


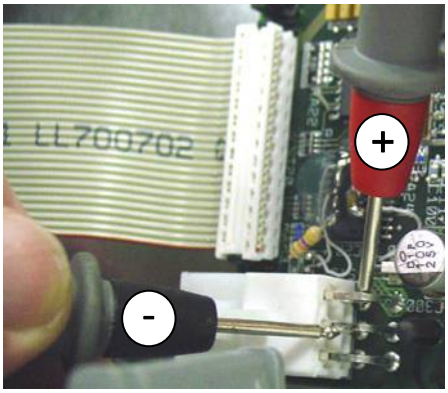
Figure 4-23: Printer PCB Standoff and Locking Clips

Voltage Checks

You can check voltages on the printer by pivoting the print out from the base or by removing the bottom UC-ST cover. Connect the UC power cord to the outlet and turn the power switch to ON. To check the voltage from the power supply to the Printer PCB, measure at the following points on the power supply connector. Between pin 1 and 2: +24VDC. Between pin 6 and 2: +5VDC.



The Printer Power Connector is also accessible from the bottom of the unit with the bottom cover removed or by pivoting the printer from the base.



Voltage Test at the Power Connector J6

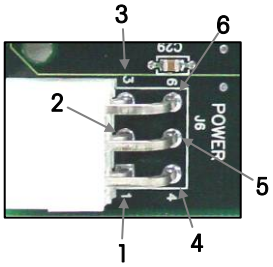
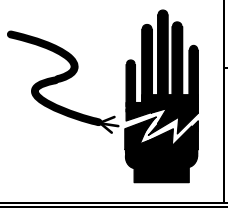


Figure 4-24: Testing +24VDC and +5VDC from Power Supply

Label Stepper Motor



⚠ 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.

Disconnect all power to the unit. To replace the Label Stepper Motor, first remove the three screws securing the printer side plate and one screw on the printer slide on top using a T20 Torx driver.

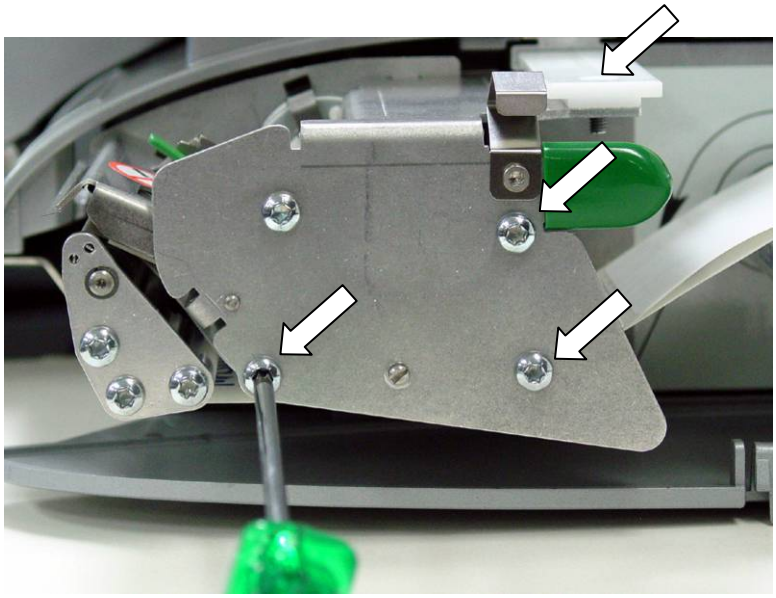


Figure 4-25: Printer Side Plate Removal

The Label Stepper Motor is held onto the vertical plate using a spring clip, shown below.

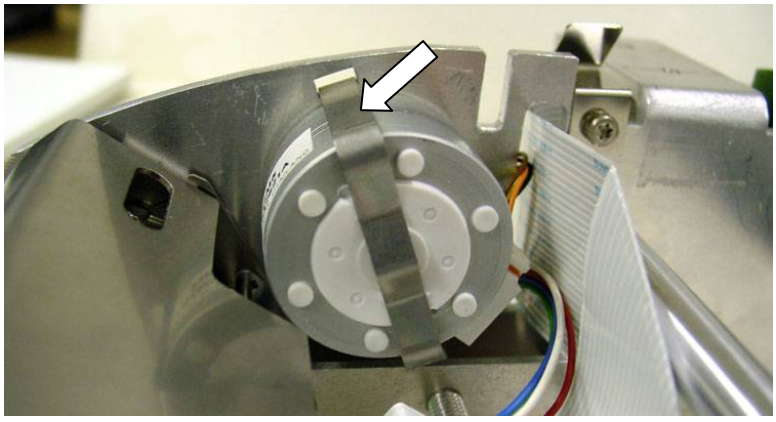


Figure 4-26: Label Stepper Motor and Mounting Clip (Label Side)

Using a small screwdriver, push the clip ends outward to clear the lip on the slots. Disconnect the motor harness and remove the old motor. Install the new motor and the retainer clip and connect the harness to the Printer PCB.

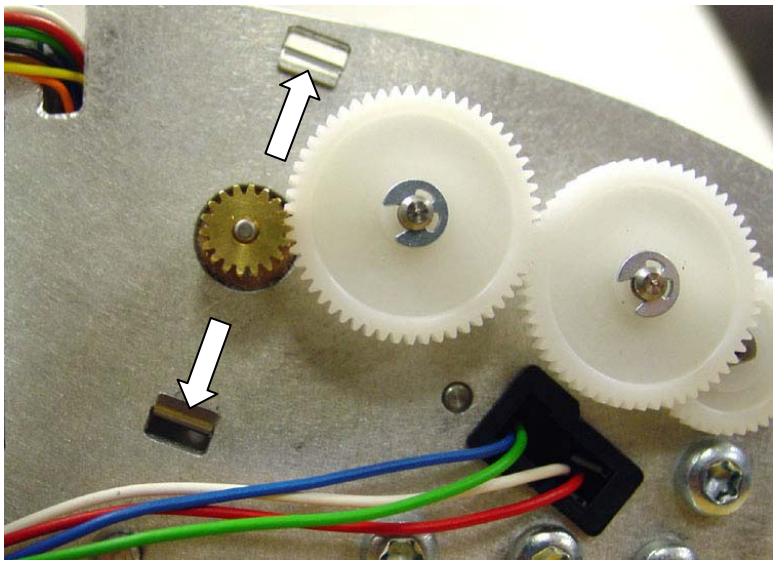
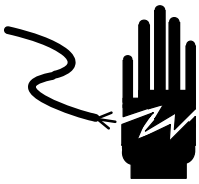


Figure 4-27: Label Stepper Motor Retainer Clip

Take Label Sensor

The Take Label Sensor is a one-piece transmitter/receiver assembly and is used to detect whether a delivered label has been removed from the printer.



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CAUTION

OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES.

To replace the sensor, first disconnect all power to the scale. The Take Label Sensor receiver (left) and transmitter (right) is shown below from the outside of the case.

Figure 4-28: Take Label Sensor (Outside view)

To replace the sensor, first remove bottom cover. Slide the printer out and disconnect the Take Label Sensor harness. Next, remove the two screw holding the sensor assembly to the case top. Replace in reverse order.

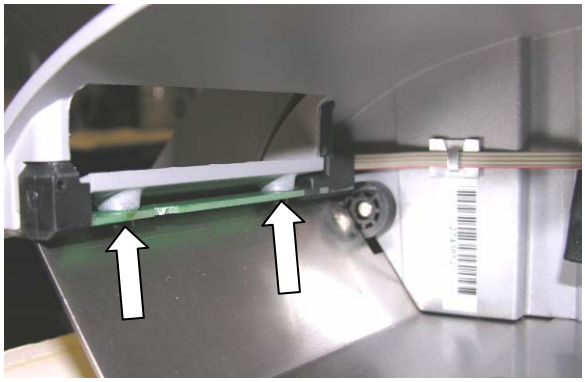
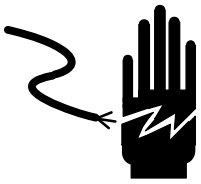


Figure 4-29: Take Label Sensor (inside view)

Gap Sensor

The Gap Sensor is used to index the labels by sensing the gap between die cut labels.



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CAUTION

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The Gap Sensor is shown below in the printer module.

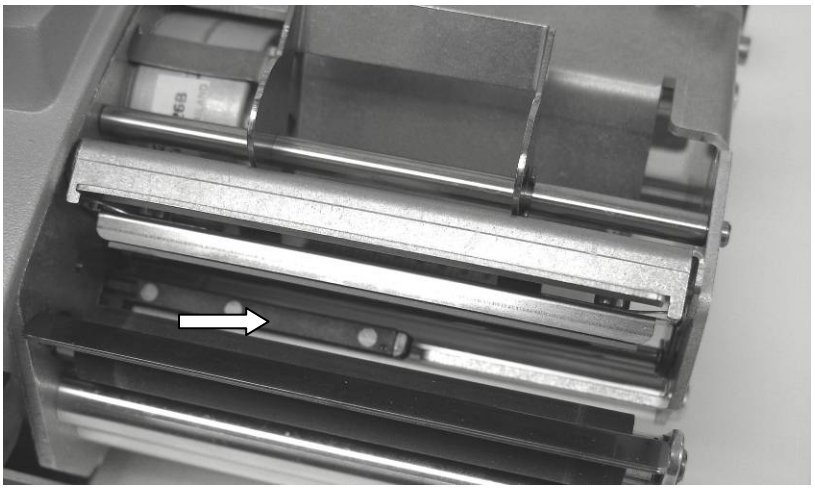


Figure 4-30: Gap Sensor

Replacement

The printer front roller assembly must be removed to replace the sensor. First, disconnect power to the scale. Refer to the previous section on removing the printer module from the base. After the module is removed, continue with removing the roller assembly mounting screws.

Using a T20 Torx driver, remove the four screws as shown below to remove the roller assembly.

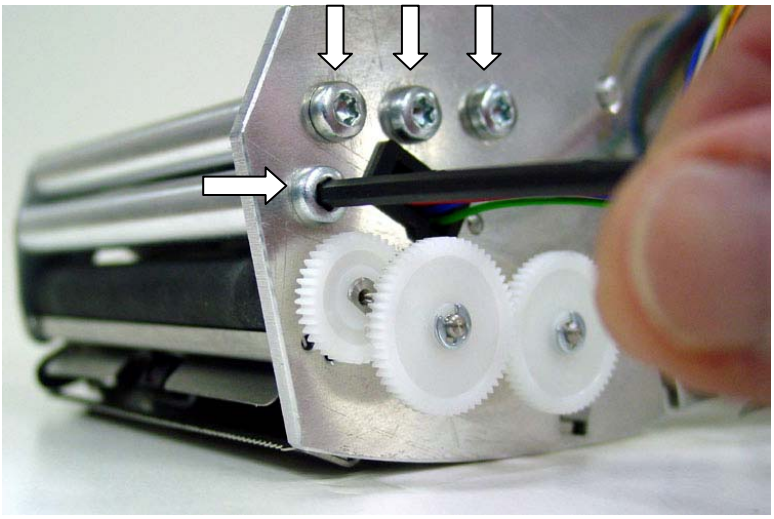


Figure 4-31: Removing the Roller Assembly

After the assembly is removed, you can see the spring clips (one on both sides) securing the Gap Sensor to the vertical plate. First disconnect the Gap Sensor harness from the Printer PCB. Press in on the side spring clips and push the Gap Sensor out of the mounting slot. Install the new sensor in reverse order.

Be sure that all spring clips engage on the assembly and the sensor is solidly mounted to the side plate.

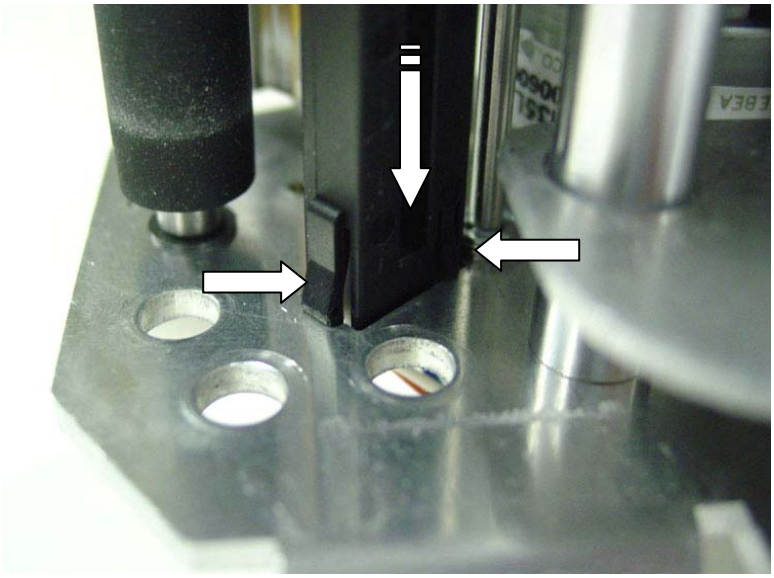


Figure 4-32: Gap Sensor Spring Clips

Gap Sensor Voltage Adjustment

To correct indexing problems, the Gap Sensor bias voltage can be adjusted.

First, make sure the Gap Sensor is clean and not blocked by any glue or labels stuck to the sensor. If the sensor is clean, procede with the adjustment.

With power disconnected from the UC-ST, place the meter probes on TP4 and TP5 and use potentiometer R8 to adjust for 60k ohms ±5K ohms.

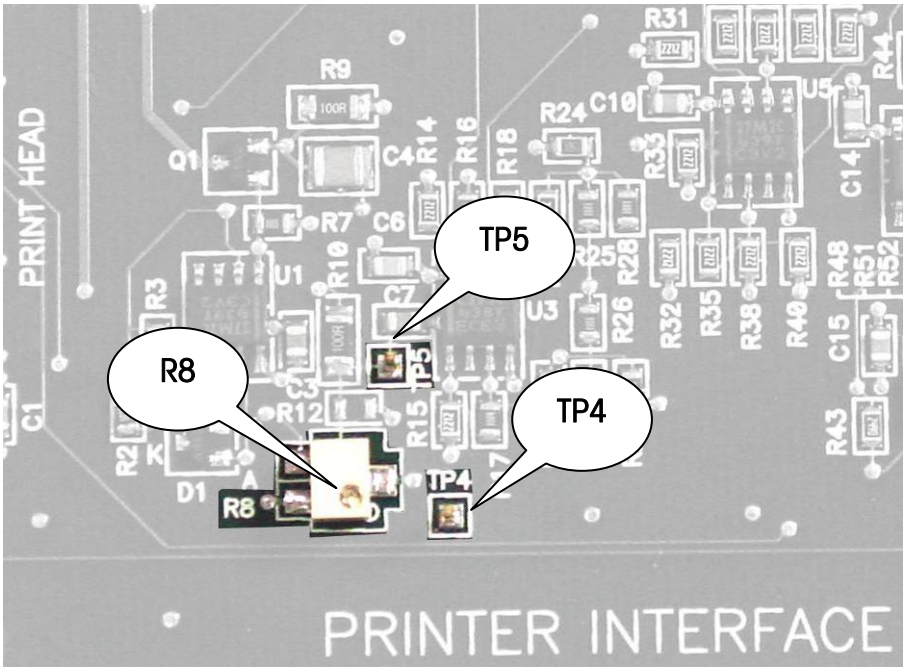


Figure 4-33: Test Points TP4 and TP5, Adjustment Pot R8

After making adjustments, verify the unit is indexing the labels correctly. Readjust if necessary.

If all Gap Sensor Sensitivity settings do not correct the indexing problems, and a custom form is being used as well as the problem is occurring on all scales, it may be necessary to manually override the Gap Sensor Equalization circuit to a fixed voltage. To do this, place the white part of a label under the Gap Sensor and adjust for 1.2VPC across TP5 and TP4 using R8. Re-measure the label and retest printing multiple labels for proper staging and indexing.

Label Guide Adjustment

To adjust the label guides for different width labels, turn the adjustment screw clockwise for narrow labels or counterclockwise for wider labels. The width should be adjusted so the liner can pass freely through the guides without binding.

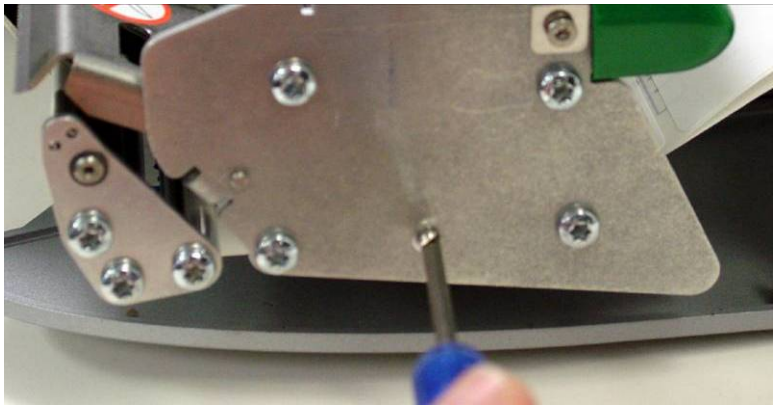


Figure 4-34: Guide Adjustment

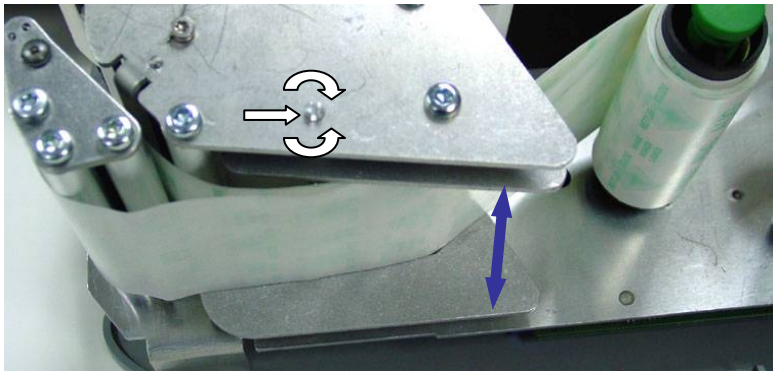
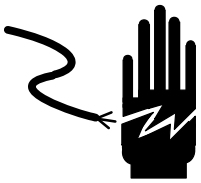


Figure 4-35: Label Guide Adjustment Screw

Printhead Replacement

To replace the Printhead, first disconnect all power to the scale.



WARNING

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CAUTION

OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES.

The Printhead is held on the support assembly with two T10 Torx screws. Remove the two screws and then unload the Printhead to raise the support assembly and slide the Printhead out the front to disconnect the harness.

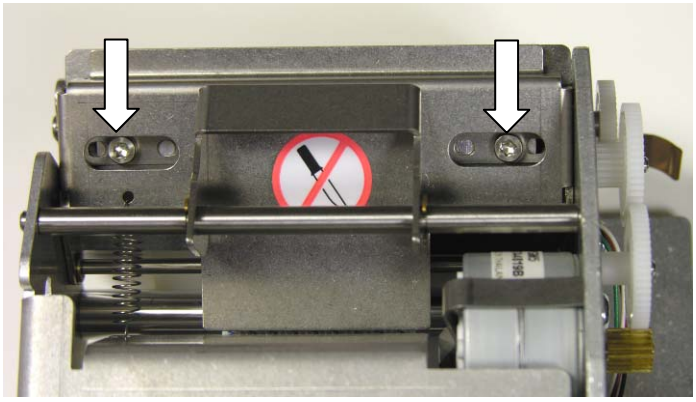

Figure 4-36: Removing Printhead Screws

Figure 4-37: Slide Printhead out the Front and Disconnect the Harness

Ethernet Network Troubleshooting

General Troubleshooting

Make sure that any excess network cabling isn't coiled. This can create electromagnetic fields that could interfere with data transfers. Try to keep cables away from fluorescent lighting, UPS (uninterruptible power supplies), AC outlets and other sources that may produce significant electromagnetic interference.

When connecting a node to a hub, the patch cable must be straight through. Pins 1, 2, 3, and 6 at the PC should line up pin-for-pin at the other end. Category 5 cables are recommended. When connecting two hubs together with 10Base-T cables, the patch cable may need to be a crossover cable. Check with the documentation that comes with the hub.

A 10Mb hub can't connect to a 100Mb hub unless a switch is used to translate the packets between the two speeds. Some hubs can also switch between the two speeds.

10BASE-T Segments (node to hub or hub to hub) are limited to 328 ft (100 m).

A Thin Ethernet Coax backbone can be used for hub to hub connections (if the hubs have a BNC connector) up to 606 ft (185 m). If Thin Ethernet is used the coax cable must be terminated at both ends with a 50-ohm resistor.

There is a maximum of two Inter-Repeater Links between devices without using a bridge or switch (A hub is a repeater) and a maximum of 4 hubs and 5 segments between any two nodes.

Hubs

Since each node on a 10/100 Base-T network has its own cable connecting it to a central hub, it not likely that any node can cause the entire network to fail. Most hubs have a "partitioning" function that can detect a problem on any of its ports. If a problem is found, the node is disconnected from the rest of the network to isolate the node until the problem can be corrected.

Hubs also have LEDs that indicate the status of the hub and ports. Refer to the documentation that comes with the hub for additional information.

The partitioning function built into most hubs and the star-wired topology makes it easy to troubleshoot a 10/100 Base-T network. Troubleshooting can be as simple as disconnecting nodes from the hub one at a time until the network recovers. Usually, the hub will give an indication as to which node is causing a problem.

Disconnecting a node from the network will have no affect whatsoever on the rest of the network. Moving an attached device is simply a matter of unplugging it from the hub and reconnecting it somewhere else.

Most hubs have a Collision LED that indicates packet collisions are occurring. This means that two or more devices are attempting to communicate at the same time. Some collision activity is normal.

Always refer to the User's Guide shipped with the hub for detailed information on the operation and description of the LED indicators.

Some of the common LED indicators on a hub are:

Power Indicates power is on to the hub.

Link or Activity Indicates the communication between the hub's port and the transmitting node is good. Most hubs will indicate a good connection by turning the Link LED ON. If the Link LED is OFF, check the cable connections and check that you are not using the wrong cable. Try another cable on the same port. If it works, replace the cable. If the problem persists, plug the cable into another port. If it works on another port, the port may be defective. If all port Line LEDs are off, replace the hub. If the problem still persists for this one unit, check the internal connections from the Ethernet PCB to the Ethernet Jack or replace the Ethernet PCB.

Collision Indicates two or more nodes are attempting to transmit on the network at the same time. Check the cable from the hub to the node. Using a crossover cable instead of a straight through cable can cause this condition. Turn the units off, and then turn them back on one at a time.

Partition Some hubs have specific partition LEDs. Others may indicate a partition by a blinking LED. If a problem is found, the node is disconnected from the rest of the network until the problem is corrected.

Interconnect Diagram

WARNING

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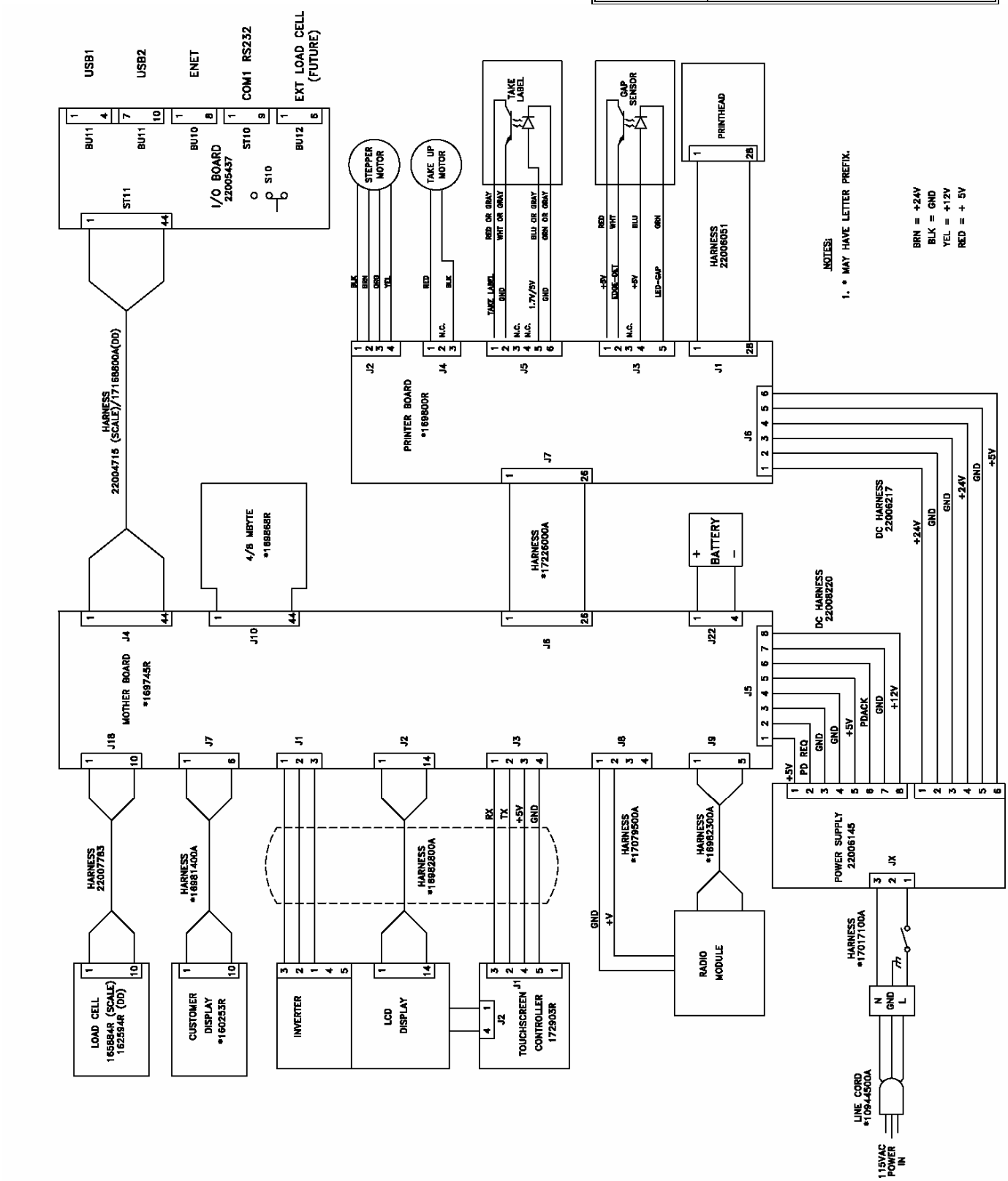

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