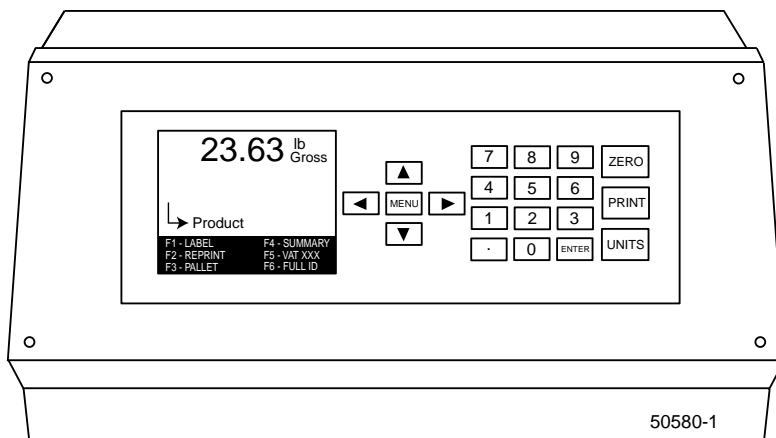




2500 Barcode Application SFW-25-6

Models: 2500-F2
2500-QF2
2500-BQ2
2500-BQ3
2500-AB



Amendment Record

2500 Barcode Application

50580

Manufactured by Fairbanks Scales Inc.
821 Locust
Kansas City, MO 64106

Created 11/99

Issue #1: New product release

Issue #2 9/03: Updated layout, descriptions, instructions, drawings; added flowcharts

Disclaimer

Every effort has been made to provide complete and accurate information in this manual. However, although this manual may include a specifically identified warranty notice for the product, Fairbanks Scales makes no representations or warranties with respect to the contents of this manual, and reserves the right to make changes to this manual without notice when and as improvements are made.

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Section 1: General Information

S1-1: Introduction:

The Barcode Labeling Application is designed to install in a standard 2500-F2 Instrument, and is available either as a pre-programmed eprom or as a "flash" program installed using the WINLOGIX™ PC software utility program. The application provides programming and calibration for control of the scale, and to process and store up to 2000 transactions while producing printed barcode or human readable labels from one of three (3) different standard label printers currently available. The Transactions are held in memory, and are available for a printed report, or uploading in a comma delimited format via the WINLOGIX™ PC software utility program. That uploaded data can then be imported into a spreadsheet or database PC software program for further processing.

Major features include push button programming and calibration. The graphic LCD display is backlit and can be easily adjusted to ensure ease of viewing in all lighting conditions. Four standard RS-232 communication ports permit easy throughput of information and simultaneous label printing, as well as data collection to either a PC or journal printer. An optional accessory 709 keyboard is available for inputting text descriptions.

Model 2500-QF2 Instruments include Fairbanks Scales exclusive Intalogix™ Technology. This advanced digital technology provides outstanding resolution, accuracy, and performance for dependable weighing, and includes built in diagnostic capabilities for added peace of mind.

Function Keys, accessed via the indicators front panel or optional keyboard accessory, enable the operator quick and easy access to many application functions, such as REPRINT, directly from the weigh screen. In addition, Fairbank's exclusive On-Board Help Menu provides three separate screens of useful operating information directly on the controller's display. The Winlogix® PC software program is available for the uploading and downloading of service and configuration parameters as well as other data items. This permits users the ability to store critical setup information, in addition to the aforementioned data uploads.

The four (4) selectable label formats available are EAN-128, UPC, Control, and Human readable, with master box and pallet total label. In addition, Custom Labels can be designed and formatted. The 2500 Controller can store product information for 1134 different products, each with a five (5) digit product code, of which 100 may be assigned a two digit hot key.

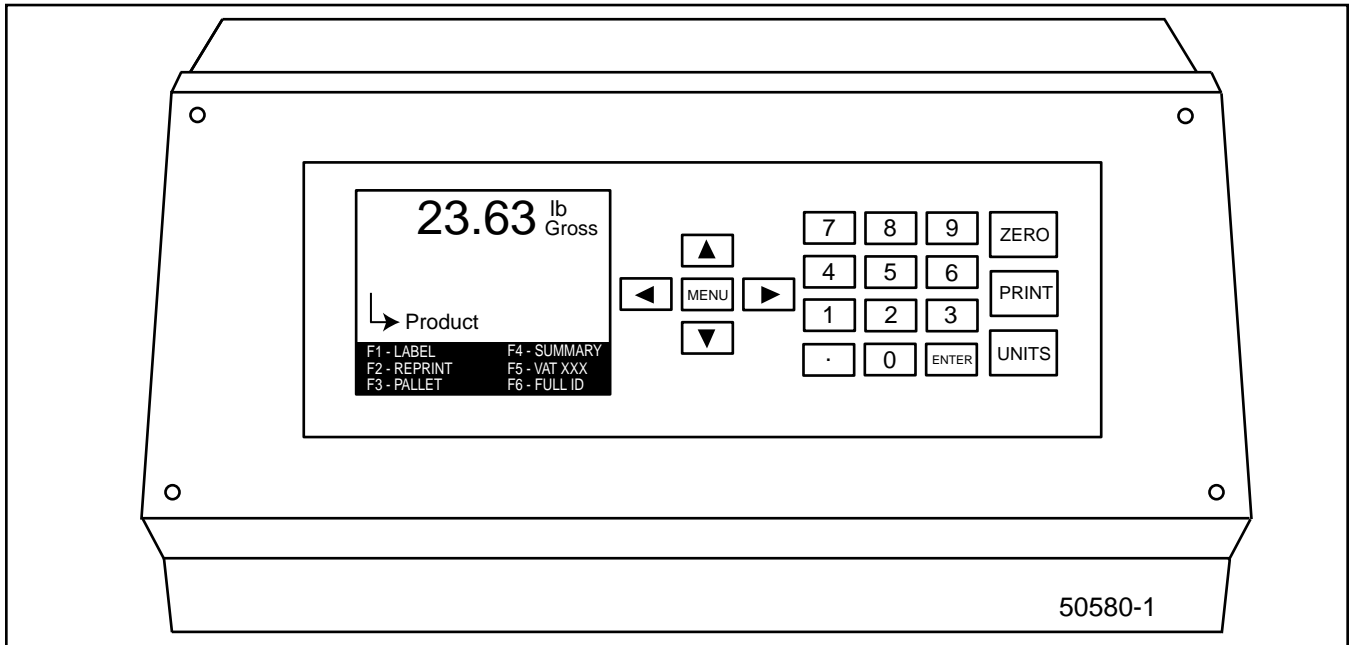
Additional programmable features include:

60 characters of alphanumeric product description.	Selectable lb or kg accumulation.
Fixed or Random weight label selection.	Min / Max weight ranging
Sell by Date: Offset of up to 999 days.	Label reprint function.
Programmable tare weights	Custom label formatting
Programmable box count for master pallet label printing	

Date available as standard, or a choice of three (3) different Jullian Date formats.

S1-2: 2500 Controller

The NEMA 4X Desk mount is primarily selected as the controller for the barcode application. The Controller contains the application Factory installed in the EPROM, and in the "Flash" EEPROM on the Programmable Controller PCB Assy. The 2500 Controller is a counter top model enclosed in a stainless steel housing rated NEMA 4X.

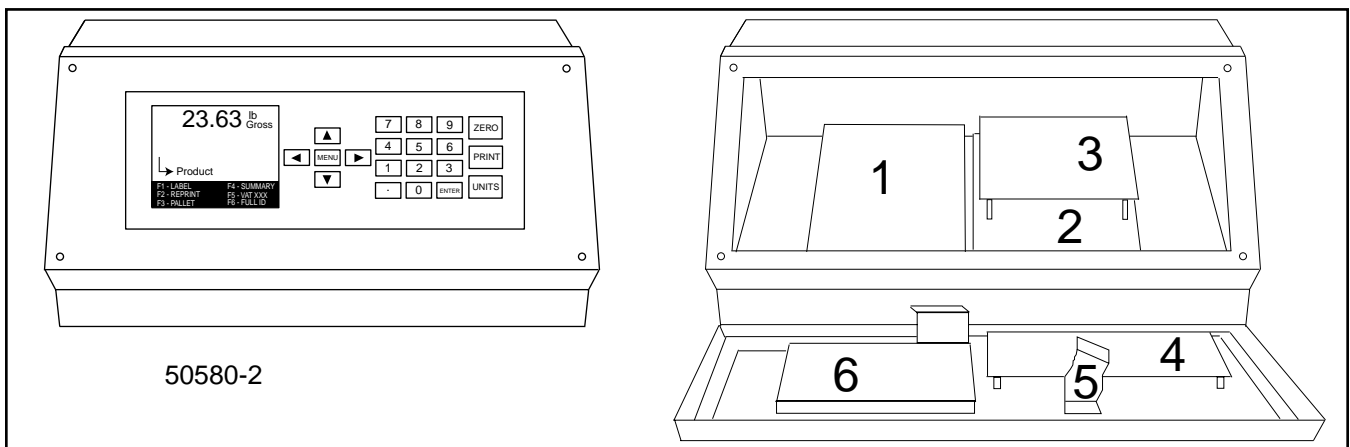


The NEMA 4X Desk mount is available in three (3) versions:

1: The 2500-BQ2 as a standard Controller for interfacing to an externally mounted quad multiplexer board (QMB). PRODUCT # 20200.

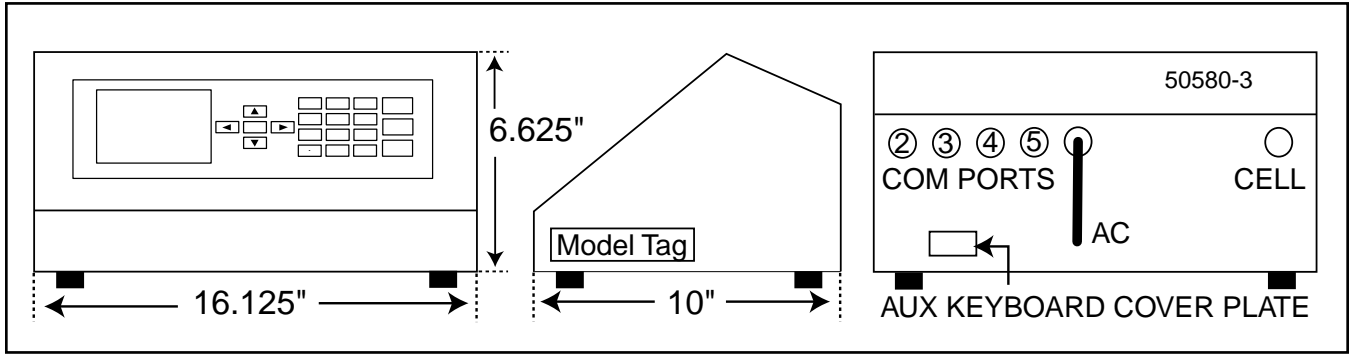
2: The 2500-BQ3 with an internally mounted quad multiplexer board (QMB), for direct connection of up to four (4) load cells. PRODUCT # 18816.

3: The 2500-AB, designed to interface directly to single and multiple loadcell platforms. Product # 24107.



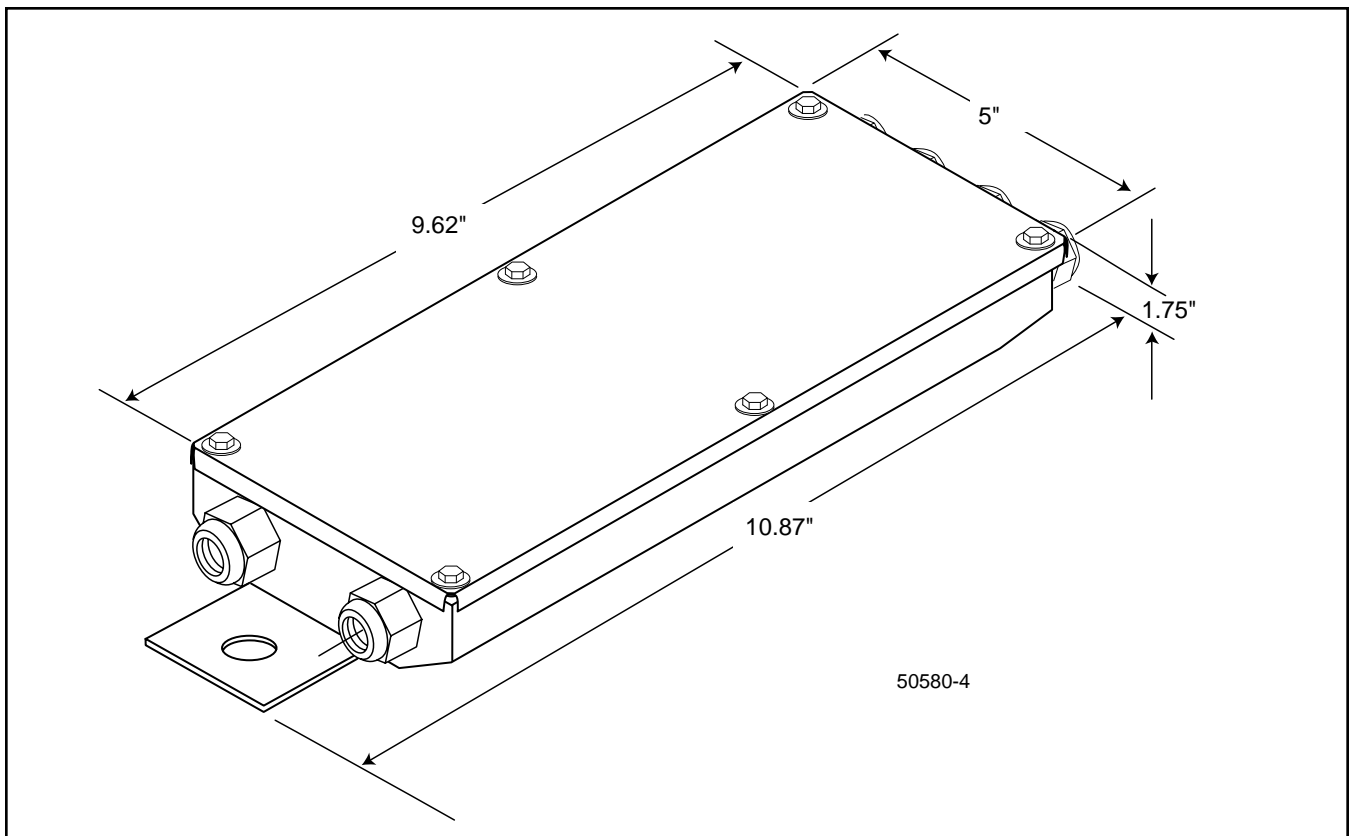
- 1:** Analog or QMB Interface, dependant on model #
2: Programmable Controller
3: Memory I/O
4: QMB Interface, if equipped
5: Keypad connector
6: Display

S1-3: CONTROLLER DIMENSIONS:



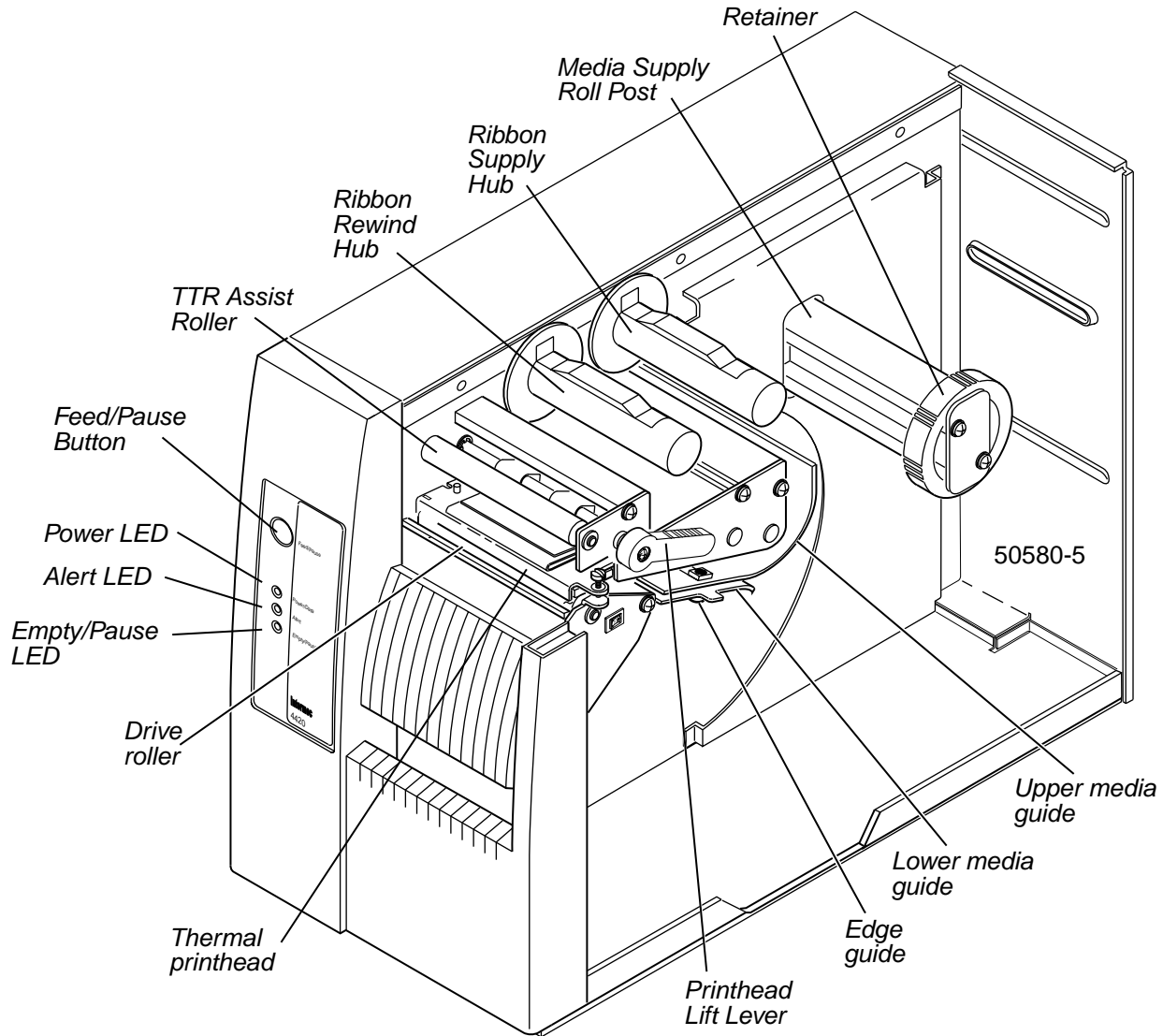
S1:4 Quad Multiplexor Box; Acc 3000-1A

Accessory 3000-1A (15291) Quad Multiplexor Box is used to interface up to four (4) loadcells to a 2500-Q series Instrument. The accessory consists of a stainless steel enclosure rated NEMA 4X, five (5) water tight wire gland fittings, an A/D PC board, and an interface cable 27' long.



S1-5: Label Printer Models 3400 / 3400S

The 3400 Series label printer is a direct thermal label printer available in a Stainless Steel (3400S) or mild steel (3400) enclosure. An optional thermal transfer ribbon is also available through Inquiry for thermal transfer printing.

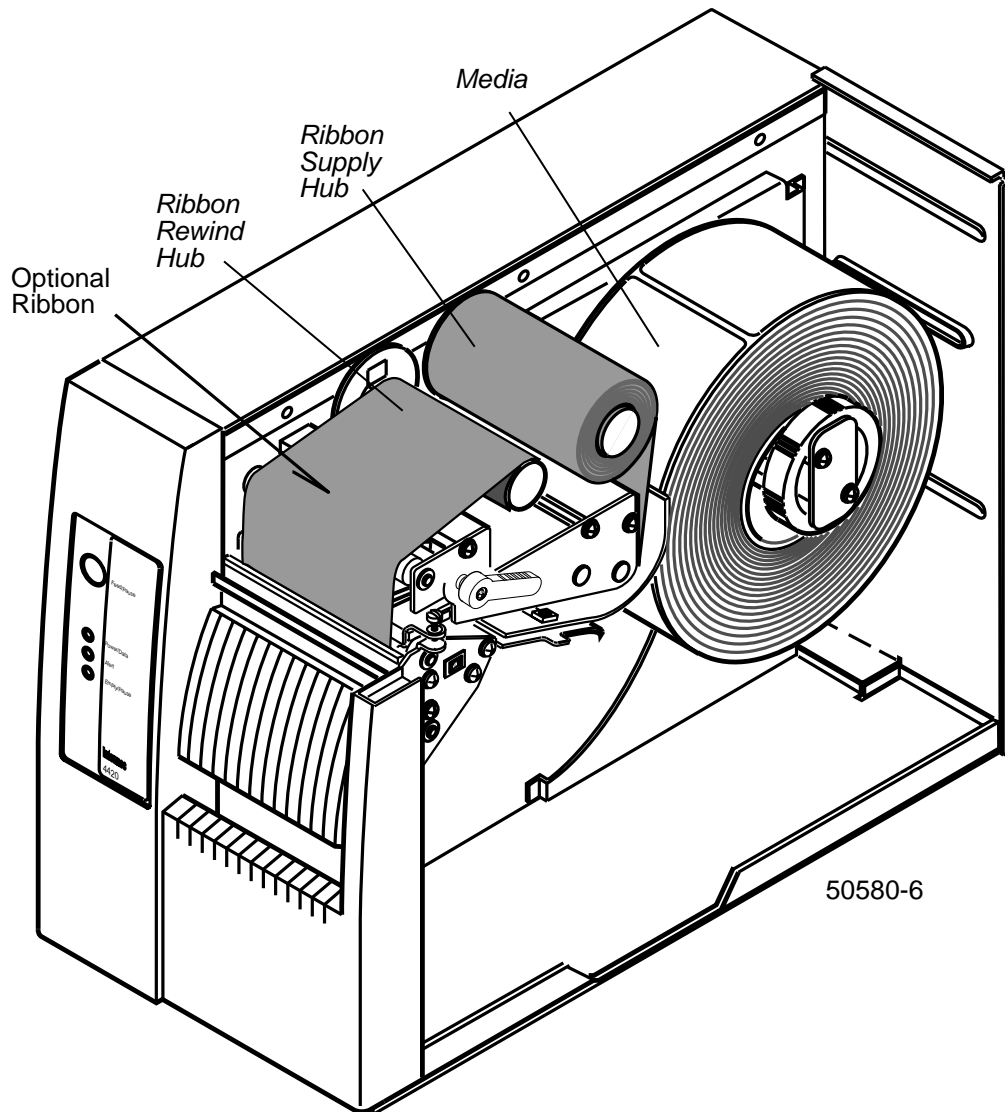


The 3400 can print a maximum of 4.1 inches wide, with different lengths available. It can print fan-fold, die-cut, tags, tickets, label feed through, and self-strip. Print speed is selectable from two to six inches per second, with a print resolution of 203 dots per inch.

S1-6: Label Printer Models 4420 / 4420S

The 4420 Series label printer is a heavy duty direct thermal printer designed for high volume operation.

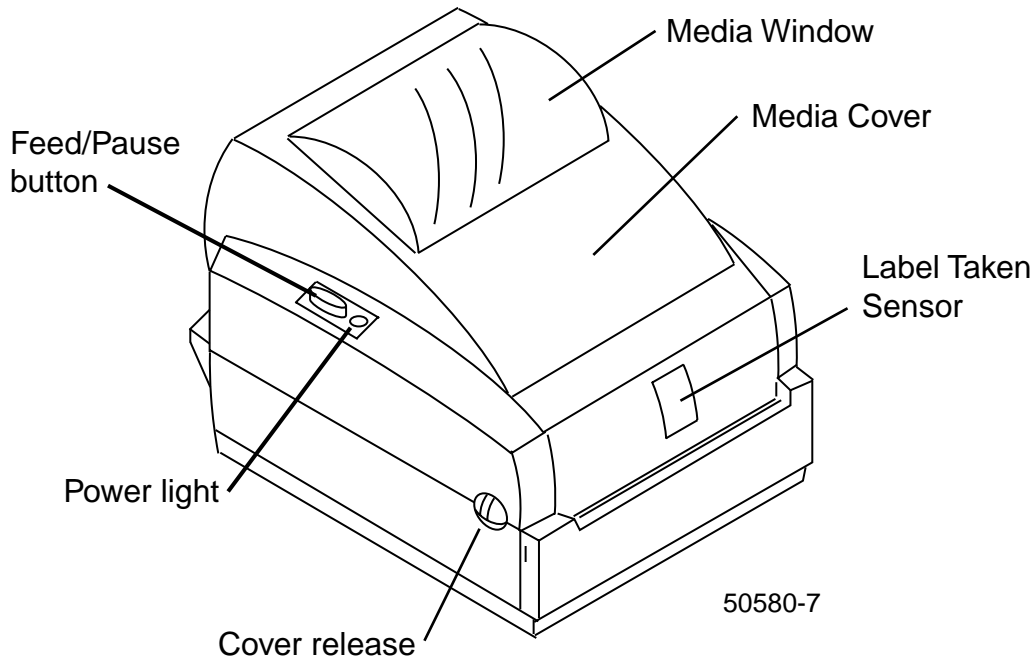
The printer is available in a Stainless Steel (4420S) or mild steel (4420) enclosure. An optional thermal transfer ribbon is also available through Inquiry for thermal transfer printing.



The 4420 can print a maximum of 4.4 inches wide, with different lengths available. It can print fan-fold, die-cut, tags, tickets, label feed through, and self-strip. Print speed is selectable from two to eight inches per second, with a print resolution of 203 dots per inch.

S1-7: Label Printer Model 7421

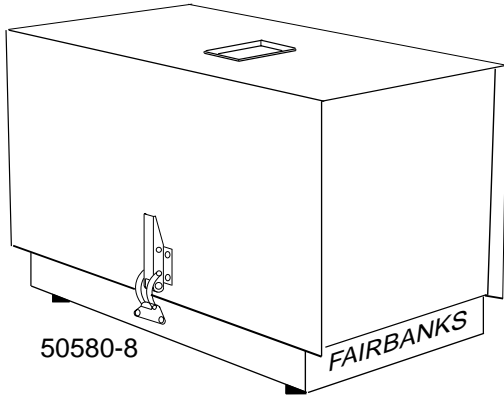
The 7421 Series label printer is a general purpose direct thermal printer intended for non-hostile environments. An optional thermal transfer ribbon is also available through Inquiry for thermal transfer printing.



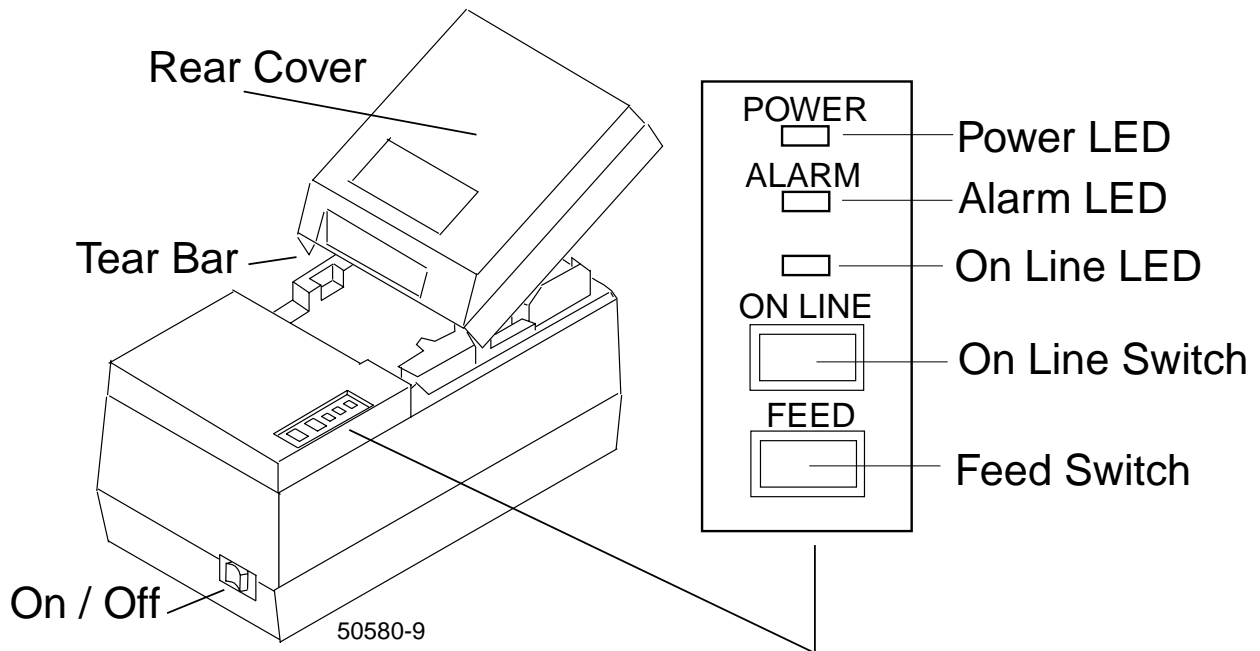
The 7421 can print a maximum of 4.65 inches wide, with a maximum length of eight (8) inches.

Print speed is two inches per second, with a print resolution of 203 dots per inch.

S1-8: Journal Printer Model 9402



The 9402 Series is a dot matrix Journal Tape Printer enclosed in a Stainless Steel enclosure rated NEMA 4. It is designed to provide a journal print of each transaction.



The printer can use either ordinary bond paper or carbonless copy paper. Available paper widths are 2.25, 3.0, and 3.25 inches.

S1-9: Terminology:

Barcode - A graphic symbol composed of parallel bars and spaces of various widths. A Barcode contains a leading quiet zone, a start character, one or more data characters including, in some cases, a check character, a stop character, and a trailing quiet zone.

Media - The label stock on which the printer, prints labels. Media can be made of plain paper, polyester, thermally reactive paper, or other material with adhesive backing.

Sensitivity - The responsiveness to heat of thermal media or thermal transfer ribbon. Sensitivity is determined by the time required for a unit measure of heat to affect the media.

Symbology - The method of representing an item code or shipping container code with a barcode symbol.

UPC - Universal Product Code. A numeric, 12 digit bar code symbology used extensively in retail, particularly the grocery industry.

UPC/EAN - Universal product code (UPC) is a subset of the European Article Numbering (EAN).

The EAN code is also referred to as the World Product Code (WPC) and, International Article Numbering (IAN). It is used in marking items for retail sale.

S1-10: Specifications:

1: Model: IND-HR2500-BQ2/BQ3

2: Instrument Approvals: NTEP: CoC 95-044A2

3: Physical Dimensions: Approximately 15.75"W x 7"H x 10"D

4: Enclosure: Stainless Steel NEMA 4X.

5: Capacities: Service programmable up to 999,950. Weight accumulation to 99,999,999 lb or kg net; Box count of 999,999 boxes.

6: Displayed Units: 16 service programmable combinations of lb, kg, tons, tonne.

7: Division Sizes: Service programmable from 0.001 to 50

8: Resolution: Commercial - Up to 10,000 divisions maximum
Noncommercial - Up to 50,000 divisions maximum

9: Sensitivity: 1 mv/d (microvolt/division)

10: Load cells: Up to 4 - 350 or 1000 W impedance

- 11: Load cell cable lengths.** 150' maximum QMB to Instrument
25' maximum Load Cell to QMB
- 12: Number of Scales:** Only one (1) scale may be programmed with this application.
- 13: Display:** 3.06" x 3.72" LCD, LED backlit graphic's display, Characters 0.5"
- 14: Product:** 60 characters (3 lines of 20 characters) of alphanumeric product description; Fixed or random weight label; Sell-by date offset of up to 999 days; Programmable box count for master pallet label printing capability; Pallet weight accumulation of 9,900 lb or kg net; Pallet count of 9,999 boxes
- 15: Tares:** User programmable per individual product ID - tares, tray tare. Service programmable - manual tare, auto tare, and combination of manual/auto
- 16: Weights:** User programmable per individual product ID Min/max settings, any standard unit, division size
- 17: Date:** Standard, with 3 julian formats.
- 18: Storage:** 2000 transactions per instrument, Winlogix® software for uploading/downloading
- 19: Labels:** Formattable, configurable, for Box, Pallet, and Product. 8 template, and 2 custom for a total of 10 formats. Label reprint function
- 20: Printers:** 3400, 4420, 7421 Label printers, 9402 journal printer, 50-3715 and 3550 series tape printers, 50-3921 and 320/520 form printers
- 21: Zero Range:** Service programmable - Disabled, 2, or 100%.
- 22: Auto Zero Tracking:** Service programmable - Disabled, .6, 1, 2 or 3 divisions.
- 23: Motion Detection:** Service programmable - Disabled, .5, 1, 2 or 3 divisions.
- 24: Digital Filter:** Service programmable from disabled up to heavy.
- 25: Display Update Rate:** Service programmable settings in 0.1 second steps.
- 26: Environment:** Temp -10°C to + 40°C (+14°F to + 104°F)
- 27: Humidity:** S/S Units (excluding 9402): 100%, condensing, rated NEMA Type 4X
S/S 9402: 10% to 90% non-condensing, rated NEMA Type 4.
- 28: Power:** 100 - 130 VAC or 200 - 260 VAC 50/60 Hz
with less than 0.2 VAC between neutral and ground.
- 29: Power Consumption:** 1 amp maximum at 117 VAC nominal.

S1-11: Accessories:

1. Accessory 3000 Quad Multiplexer Board (Product Number 15291)

Each controller comes standard with 27' of cable, and allows up to four (4) load cells to be interconnected and communicate to the instrument using Intalogix™ Technology.

Enclosure: NEMA 4X / Stainless steel

2. Accessory 3005 (Product Number 15287)

50 foot cable for QMB

3. Accessory 3010 (Product Number 15288)

100 foot cable for QMB

4. Accessory 3015 (Product Number 15289)

150 foot cable for QMB (maximum length)

5. Accessory 709 Keyboard (Product Number 15642)

104 key QWERTY Keyboard (not designed for permanent use in a hostile environment - used for alpha numeric programming only).

<u>Part #</u>	<u>Description</u>
----------------------	---------------------------

15291:	Complete QMB assembly (S/S Enclosure, QMB pcb Assy, 27' cable included)
--------	---

15287:	50 foot cable for QMB
--------	-----------------------

15288:	100 foot cable for QMB
--------	------------------------

15289:	150 foot cable for QMB (maximum length)
--------	---

16157:	8' cable, IND-HR2500-QF2 to NON-Hostile 3400 and 4420
--------	---

20297:	8' cable, IND-HR2500-QF2 to Hostile 3400S and 4420S
--------	---

20297:	8' cable, IND-HR2500-QF2 to Hostile PTR-9402 Journal Printer
--------	--

20484:	8' cable, IND-HR2500-QF2 to NON-Hostile 7421
--------	--

15457:	8' cable, IND-HR2500-QF2 to NON-Hostile Modem 15323 (Acc 2020-1)
--------	--

12654:	8' cable, IND-HR2500-QF2 to NON-Hostile 50-3715 & 3550 Tape Printers
--------	--

16157:	8' cable, IND-HR2500-QF2 to NON-Hostile Oki 320/520, 50-3921
--------	--

15585:	Connector Kit, 9 pin AMP
--------	--------------------------

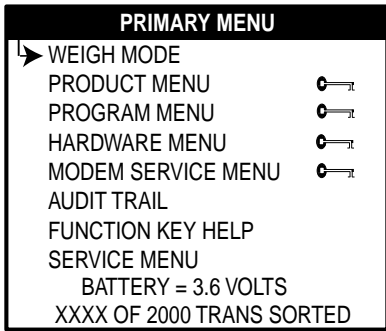
17216:	Cable, by the foot, 50' max
--------	-----------------------------

15641:	Keyboard assembly, 104 keys, 6' coiled cord, NON-Hostile
--------	--

20702:	Winlogix cable, 9 pin circular to 9 pin female DB
--------	---

Section 2: Menu Flowcharts

BARCODE APPLICATION; REV 4, NOV 20, 2001



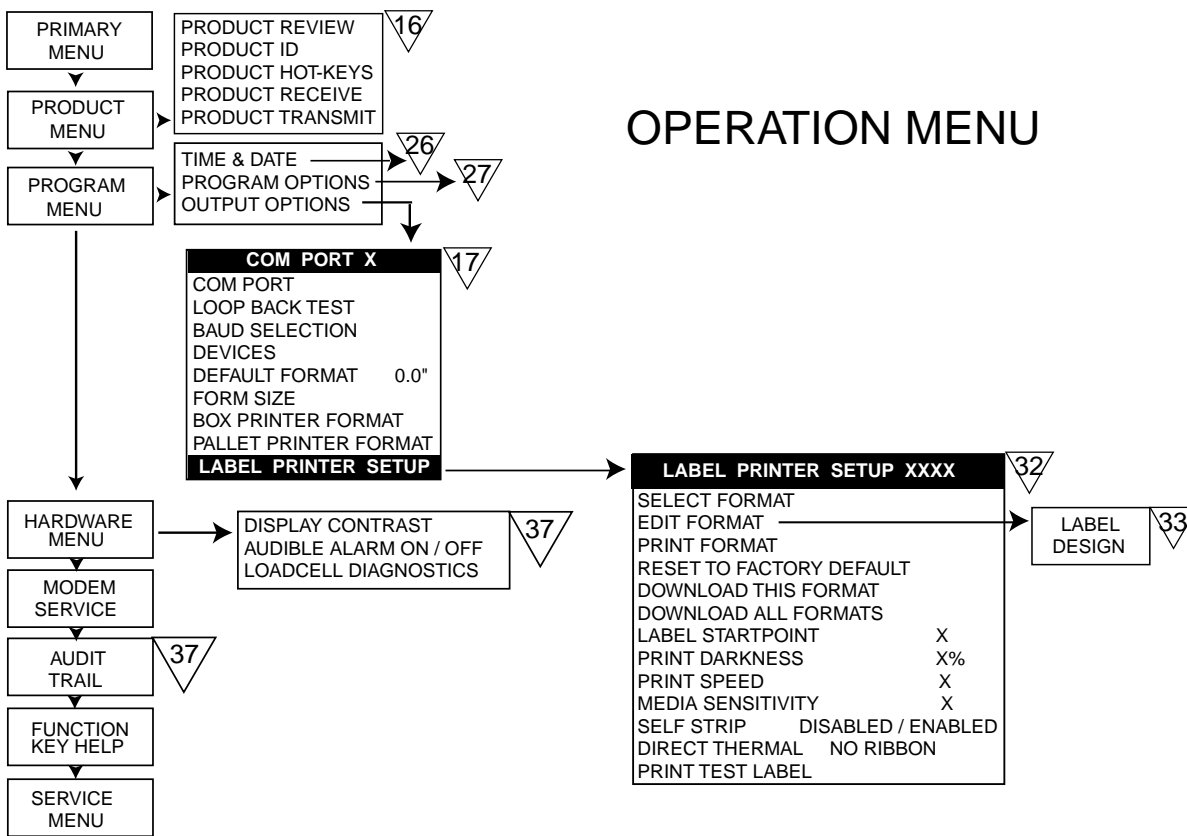
NAVIGATING THE MENU

The PRIMARY MENU is accessed by pressing the <MENU> key. To return to any previous screen, press the <MENU> key. Use the arrow keys to scroll the cursor up or down to the sub-menu item you wish to access. With the cursor next to the choice, press the <ENTER> key.

The Primary Menu also displays the current voltage of the battery that retains the memory, and the number of transactions stored and number of transactions available.

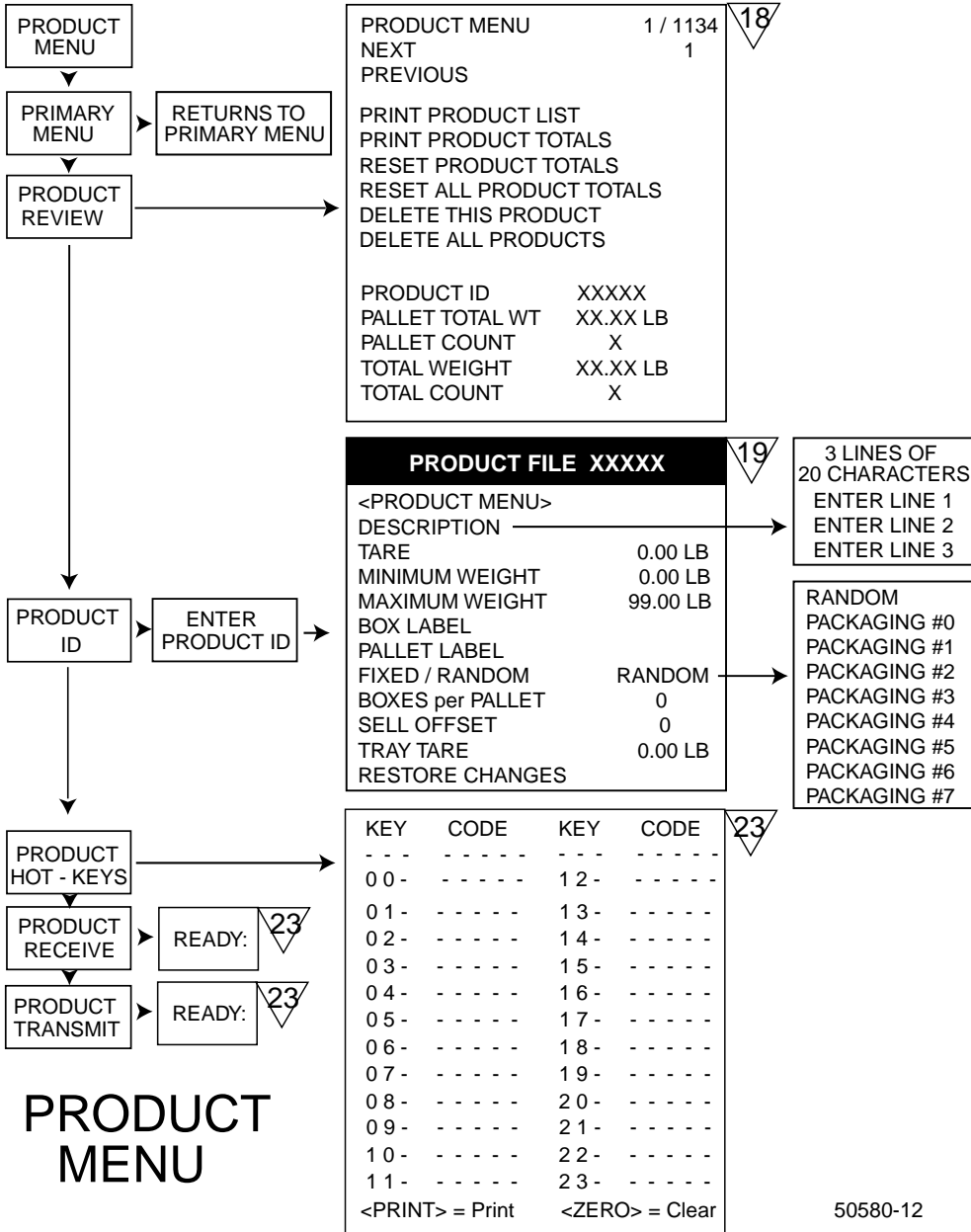
(At 2000, the memory will overwrite itself).

NOTE: The configuration menu security code will place KEY LEGENDS to the right of the PRODUCT MENU, PROGRAM MENU, HARDWARE MENU, and MODEM SERVICE MENU.

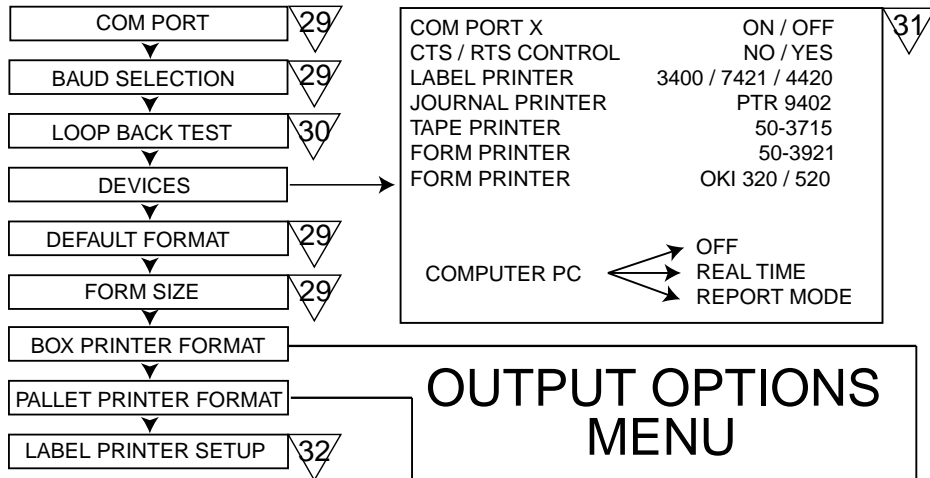


50580-11

FLOWCHART TRIANGLE: Indicates the page number to reference further information.



50580-12



GROSS	0.0 / 0.0	29
TARE	0.0 / 0.0	
NET	0.0 / 0.0	
TIME	0.0 / 0.0	
DATE	0.0 / 0.0	
SELL BY DATE	0.0 / 0.0	
TICKET NUMBER	0.0 / 0.0	
BATCH No.	0.0 / 0.0	
PALLET SER. No.	0.0 / 0.0	
BOX SER No.	0.0 / 0.0	
MANUF. CODE	0.0 / 0.0	
STATION No.	0.0 / 0.0	
VAT NUMBER	0.0 / 0.0	
FACTORY NUMBER	0.0 / 0.0	
PALLET WEIGHT	0.0 / 0.0	
PALLET COUNT	0.0 / 0.0	
PRODUCT ID	0.0 / 0.0	
PRODUCT TOTAL	0.0 / 0.0	
PRODUCT COUNT	0.0 / 0.0	
PRODUCT LINE 1	0.0 / 0.0	
PRODUCT LINE 2	0.0 / 0.0	
PRODUCT LINE 3	0.0 / 0.0	
TOTAL WEIGHT	0.0 / 0.0	
TOTAL COUNT	0.0 / 0.0	
TRAY TARE	0.0 / 0.0	
SCALE ID	0.0 / 0.0	
SPECIAL CODE	0.0 / 0.0	

PALLET PRINTER FORMAT

GROSS	0.0 / 0.0	29
TARE	0.0 / 0.0	
NET	0.0 / 0.0	
TIME	0.0 / 0.0	
DATE	0.0 / 0.0	
SELL BY DATE	0.0 / 0.0	
TICKET NUMBER	0.0 / 0.0	
BATCH No.	0.0 / 0.0	
PALLET SER. No.	0.0 / 0.0	
BOX SER No.	0.0 / 0.0	
MANUF. CODE	0.0 / 0.0	
STATION No.	0.0 / 0.0	
VAT NUMBER	0.0 / 0.0	
FACTORY NUMBER	0.0 / 0.0	
PALLET WEIGHT	0.0 / 0.0	
PALLET COUNT	0.0 / 0.0	
PRODUCT ID	0.0 / 0.0	
PRODUCT TOTAL	0.0 / 0.0	
PRODUCT COUNT	0.0 / 0.0	
PRODUCT LINE 1	0.0 / 0.0	
PRODUCT LINE 2	0.0 / 0.0	
PRODUCT LINE 3	0.0 / 0.0	
TOTAL WEIGHT	0.0 / 0.0	
TOTAL COUNT	0.0 / 0.0	
TRAY TARE	0.0 / 0.0	
SCALE ID	0.0 / 0.0	
SPECIAL CODE	0.0 / 0.0	

BOX PRINTER FORMAT

50580-13

PRODUCT REVIEW MENU

PRODUCT MENU	1 / 1134
NEXT	1
PREVIOUS	
PRINT PRODUCT LIST	
PRINT PRODUCT TOTALS	
RESET PRODUCT TOTALS	
RESET ALL PRODUCT TOTALS	
DELETE THIS PRODUCT	
DELETE ALL PRODUCTS	
PRODUCT ID	XXXXX
PALLET TOTAL WT	XX.XX LB
PALLET COUNT	X
TOTAL WEIGHT	XX.XX LB
TOTAL COUNT	X

50580-14

PRODUCT MENU 1/1134 - There is memory for 1134 products, current number stored is 1

NEXT - To display the next record

PREVIOUS - To display the previous record

PRINT PRODUCT LIST - Select to print the entire product list to an installed form printer.

PRINT PRODUCT TOTALS - Print accumulated weight and count of products, by product number, to an installed tape, form, or journal printer

RESET PRODUCT TOTALS - Select to reset the accumulated weight and count for the current product

RESET ALL PRODUCT TOTALS - Select to reset all product weight and count accumulations

DELETE THIS PRODUCT - Select to erase the current product entry

DELETE ALL PRODUCTS - Select to erase all product entries

Note : Use all RESET and DELETE options with caution.

PRODUCT ID - The currently displayed Product ID number

PALLET TOTAL WEIGHT - Accumulated weight for current pallet

PALLET COUNT - Box count for current pallet

TOTAL WEIGHT - Total accumulated weight for the currently displayed product

TOTAL COUNT - Total box count for the currently displayed product

PRODUCT FILE MENU Product ID (product setup)

PRODUCT FILE XXXXX	
<PRODUCT MENU>	
DESCRIPTION	
TARE	0.00 LB
MINIMUM WEIGHT	0.00 LB
MAXIMUM WEIGHT	99.00 LB
BOX LABEL	
PALLET LABEL	
FIXED / RANDOM	RANDOM
BOXES per PALLET	0
SELL OFFSET	0
TRAY TARE	0.00 LB
RESTORE CHANGES	

50580-15

When PRODUCT ID is selected, the screen prompts for an ID. If the ID is NOT found, it will prompt to press the <ENTER> key to create it. The screen for PRODUCT FILE XXXXX will open for the existing or new ID.

PRODUCT MENU - Returns the screen to the product menu.

DESCRIPTION - Select to enter the alpha-numeric description of the product. Three (3) lines of 20 characters each are available.

TARE - Select to enter the tare weight of the packaging, i.e. the box / container.

MINIMUM WEIGHT - Select to enter the minimum weight threshold. Weights that are less than this value will NOT be processed, and a Label will NOT be printed. The audible alarm will sound, and the message " **** MINIMUM WEIGHT ERROR **** " will be displayed at the weigh screen.

MAXIMUM WEIGHT - Select to enter the maximum weight threshold. Weights that are greater than this value will NOT be processed, and a Label will NOT be printed. The audible alarm will sound, and the message " **** MAXIMUM WEIGHT ERROR **** " will be displayed at the weigh screen.

BOX LABEL - Select the Box label format. Pressing the <ENTER> key will toggle through the available choices: UPCBOX, CTRLBOX, EANBOX, HUMANBOX, CUSTOM8, CUSTOM9, or NOLABEL.



UPC BOX LABEL

- #1: Product ID
- #2: Station ID
- #3: Box Serial #

- #3: Box Serial Number
- #4: Date
- #5: Net weight
- #6: 9 = Random weight (SCALE) 0 to 7 = Fixed weight (see FIXED/RANDOM)
- #7: Manufacturers Code
- #8: Product ID
- #9: Net Weight
- *: Checksum



CNTRLBOX LABEL

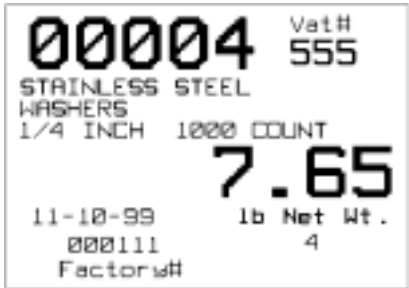
- #1: Product ID
- #2: Station ID
- #3: Box serial #
- #4: Date
- #5: Net weight
- *: Checksum



EANBOX LABEL

- #1: 9 = Random weight (SCALE)
0 to 7 = Fixed weight (see FIXED/RANDOM)
The zero to the right is always zero.
- #2: Manufacturers Code
- #3: 00002=Product Code. (1=Chksum)

- #4: 3102 = Net KG / 3202 = Net LB. 2 = # Dec places.
- #5: Net weight
- #6: 10 = Batch#; 13 = Pack Date; 15 = Sell by Date
- #7: Date or Batch #
- #8: Application Identifier for Serial #
- #9: Box serial #



50580-19

HUMANBOX LABEL

PALLET LABEL - Select the Pallet label format. Pressing the ENTER key will toggle through the available choices: CTRLPAL, EANPAL, HUMANPAL, CUSTOM 8, CUSTOM 9, or NO LABEL.



50580-20

CNTRLPAL LABEL

- #1: Product ID
- #2: Station ID
- #3: Pallet serial #
- #4: Count
- #5: Net weight.



50580-21

EANPAL LABEL

- #1: 9 = Random weight (SCALE)
0 to 7 = Fixed weight (see FIXED/RANDOM)
The zero to the right is always zero.
- #2: Manufacturers Code
- #3: Product ID

- #4: 3102 = Net KG / 3202 = Net LB. 2 = # Dec places.
- #5: Net weight
- #6: 10 = Batch#; 13 = Pack Date; 15 = Sell by Date
- #7: Date or Batch #
- #8: 30 = Pallet Serial #
- #9: 4 digit Pallet count



HUMANPAL LABEL

FIXED / RANDOM -Select whether the Scale weight OR a preprogrammed weight value with a selectable Barcode Identifying number 0 - 7 is to be printed on the Barcode Label. Pressing the <ENTER> key will toggle through the available choices: RANDOM, or PACKAGING #0 through PACKAGING #7.

The RANDOM selection will print and accumulate the weight value from the scale. The "fixed" selection, PACKAGING #0 through PACKAGING #7, will print the MINIMUM weight value programmed in the Product ID file on the label; while the actual weight is printed on the journal printer and accumulated.



UPC PACKAGING #0 LABEL

Above - UPC PACKAGING #0: Referencing the indicated number above: A Barcode Identifying number 0 - 7 will be printed on the Barcode Label according to the selected fixed format, PACKAGING #0 through PACKAGING #7.

BOXES per PALLET - Select to program the number of boxes stacked on each pallet. When this number of box labels has been printed, a pallet label will be automatically printed.

SELL OFFSET - Select to program the printed SELL BY date on the Barcode label.

TRAY TARE - Select to enter a Tare weight value for a packaging tray that may be used for multiple items in a Box. The Tray Tare weight value will be printed on the journal printer only.

RESTORE CHANGES - Select to restore all settings to their previous values.

NOTE: All Currently displayed settings are saved when exiting this menu screen.

PRODUCT HOT KEYS

A Product Hot Key is a feature of the Barcode application that is used to recall a 5 digit Product ID with an assigned 2 digit number. This permits faster Product ID recall for up to 100 more frequently used products.

KEY	CODE	KEY	CODE
- - -	- - - - -	- - -	- - - - -
00 -	- - - - -	12 -	- - - - -
01 -	- - - - -	13 -	- - - - -
02 -	- - - - -	14 -	- - - - -
03 -	- - - - -	15 -	- - - - -
04 -	- - - - -	16 -	- - - - -
05 -	- - - - -	17 -	- - - - -
06 -	- - - - -	18 -	- - - - -
07 -	- - - - -	19 -	- - - - -
08 -	- - - - -	20 -	- - - - -
09 -	- - - - -	21 -	- - - - -
10 -	- - - - -	22 -	- - - - -
11 -	- - - - -	23 -	- - - - -
<PRINT> = Print		<ZERO> = Clear	

50580-24

To program a hot key, place the cursor next to the desired hot key recall number, for example; "00"; and enter an existing Product ID number. When 00 is addressed as a 'hot-key', the product for that 5 digit code will be accessed. Use the <LEFT>, <RIGHT>, <UP>, and <DOWN> arrow keys to scroll through the selections 00-99. Press the <ZERO> key to clear all hot-key settings, use the <MENU> key to exit.

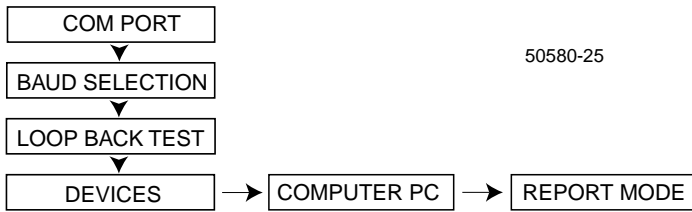
Programming Example: Product number 56789 is programmed in memory. To assign this Product ID a 'hot-key', place the cursor next to any one of the 2 digit numbers, such as '05', press the <ENTER> key, key in "56789" then press the <ENTER> key.

To use this 'hot-key', at the weigh screen press <F6> from a keyboard or <RIGHT ARROW> then <6> from the touch keypad (toggles the displayed legend HOT-KEY to FULL ID), then key in "05" and press the <ENTER> key. The product information will be shown and 56789 will be the selected product.

PRODUCT RECEIVE - For receiving product file data from a 2500 Barcode Controller, or from a Fairbanks PC based production system (DMS - Special System)

PRODUCT TRANSMIT - For sending product file data to a 2500 Barcode Controller, or to a Fairbanks PC based production system (DMS - Special System)

TO TRANSFER FILES BETWEEN CONTROLLERS: - File Transfer can be performed on ANY RS-232 Com Port that is set-up in the DEVICE menu as COMPUTER, REPORT MODE. Remember to select the DEFAULT FORMAT after selecting the device.



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The DEFAULT FORMAT will establish 9600 Baud, Odd Parity, 8 Data Bits, and 1 Stop bit.

WIRING: RS-232 - DB-9 Connector - NON-HOSTILE ENCLOSURES:

<u>2500 Controller</u>	<u>TO</u>	<u>2500 Controller</u>
DB-9 PIN #2 - RX		DB-9 PIN #3 - TX
DB-9 PIN #3 - TX		DB-9 PIN #2 - RX
DB-9 PIN #5 - SG		DB-9 PIN #5 - SG

WIRING: RS-232 - DB-9 Connector - HOSTILE ENCLOSURES:

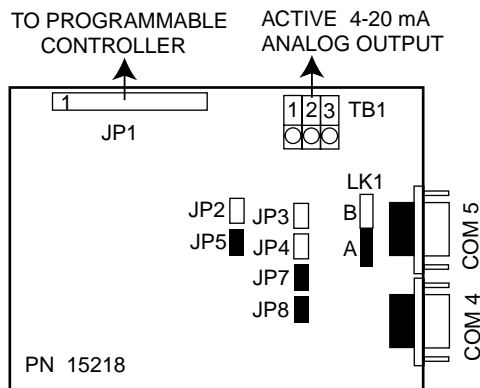
<u>2500 Controller</u>		<u>2500 Controller</u>
AMP CONNECTOR PIN #5 - RX		AMP CONNECTOR PIN#4 - TX
AMP CONNECTOR PIN#4 - TX		AMP CONNECTOR PIN #5 - RX
AMP CONNECTOR PIN#8 - SG		AMP CONNECTOR PIN#8 - SG

NOTE: RS-232 is limited to 50 cable feet.

WIRING: RS-485

Com port 5 can be configured for RS-485 by moving a group of Jumpers on the Memory I/O board as shown in the following diagram.

NOTE:
TO CHANGE COM 5 RS-232
OUTPUT TO RS-485;
MOVE JUMPERS
FROM J5, J7, & J8
TO J2, J3, & J4.



50580-26

LK-1 is used to provide a 120 ohm terminating resistor to Com 5, if required. Position A = NO Terminating Resistor. If required, jumper the B position.

WIRING: RS-485: NON-HOSTILE ENCLOSURES:

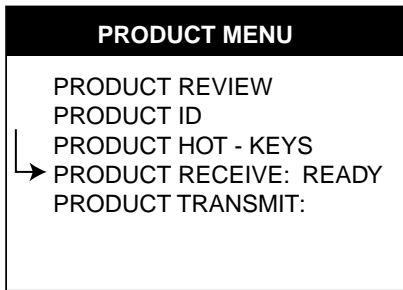
<u>2500 Controller</u>	<u>TO</u>	<u>2500 Controller</u>
DB-9 PIN #3 - RS-485 (+)		DB-9 PIN #3 - RS-485 (+)
DB-9 PIN #2 - RS-485 (-)		DB-9 PIN #2 - RS-485 (-)

WIRING: RS-232: HOSTILE ENCLOSURES:

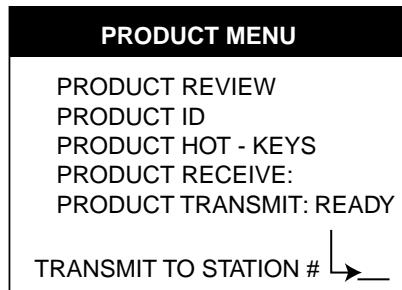
<u>2500 Controller COM 5</u>	<u>TO</u>	<u>2500 Controller COM 5</u>
AMP CONNECTOR PIN#4 - RS-485 (+)		AMP CONNECTOR PIN#4 - RS-485 (+)
AMP CONNECTOR PIN #5 - RS-485 (-)		AMP CONNECTOR PIN #5 - RS-485 (-)

NOTE: RS-485 is limited to 4000 cable feet.

At the Receiving 2500 Controller, go to the PRODUCT MENU Screen and place the cursor next to the legend PRODUCT RECEIVE. The Screen should display "READY". The receiving 2500 Controller must remain at this screen until the file transfer is complete.



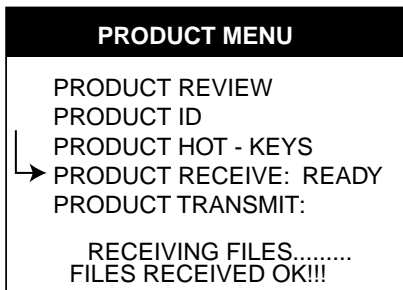
RECEIVING CONTROLLER



TRANSMITTING CONTROLLER

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At the Transmitting 2500 Controller, go to the PRODUCT MENU Screen and place the cursor next to the legend PRODUCT TRANSMIT and press the <ENTER> key. Enter the STATION ID number (located in the PROGRAM OPTIONS screen) of the Receiving 2500 Controller when prompted.



RECEIVING CONTROLLER



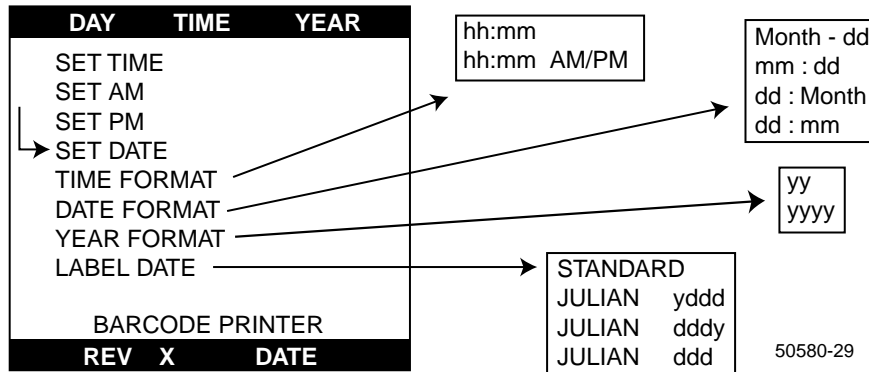
TRANSMITTING CONTROLLER

50580-28

Both 2500 Controllers will display as shown during the file transfer, and will also indicate when complete.

TIME and DATE:

In addition to setting the time and date, several different formats are available for TIME FORMAT, DATE FORMAT, YEAR FORMAT, and LABEL DATE. The Software Application Type, Revision, and Date are also displayed at the bottom of this screen.



The different formats for TIME FORMAT, DATE FORMAT, YEAR FORMAT, and LABEL DATE are selected by placing the arrow by the item and pressing enter, then use the <UP ARROW> and <DOWN ARROW> keys to scroll through the available options.

AVAILABLE SELECTIONS:

TIME FORMAT: hh:mm, or hh:mm AM/PM.

DATE FORMAT: mm:dd, dd-Month, dd:mm, or Month-dd.

YEAR FORMAT: yy, or yyyy.

LABEL DATE: STANDARD, JULIAN yddd, JULIAN dddy, or JULIAN ddd.

NOTE:

TIME (System Clock Time) - DATE (System Clock Date) are printable on the label as human readable fields only. The LABEL DATE is formatable, BUT will only be seen as a numeric value located directly under the barcode. Julian Date is selectable as a human readable field, printable on the label in the yddd format only.

PROGRAM OPTIONS

PROGRAM OPTIONS	
<PROGRAM MENU>	
TICKET No	123456
BATCH No	123456
↳ PALLET SERIAL No	1234
BOX SERIAL No	123456
MANUF. CODE	123456
STATION No	1
VAT NUMBER	123
FACTORY NUMBER	1234567
HOT KEY	OFF / ON
AUTO PRINT	NO / YES
AUTO PALLET PRINT	NO / YES
TARE METHOD	AUTO
PRINT ENABLE WT	0.00 LB
SPECIAL CODE	123456

50580-30

PROGRAM MENU - Returns the display to the Program menu

TICKET No - Select to enter the starting ticket #, a maximum of six (6) numeric digits. This number will increment upon an installed JOURNAL, TAPE, or FORM printer PRINTING a transaction. If a Printer does not produce a printed record of the Transaction, the Ticket # will NOT increment.

BATCH No - Select to enter the starting batch #, a maximum of six (6) numeric digits. This is a human readable, non incrementing, fixed number that may be printed on either the BOX, PALLET, or LABEL PRINTER formats.

PALLET SERIAL No - Select to enter the starting pallet serial #, a maximum of four (4) numeric digits. This number will increment with every PALLET LABEL printed, and is part of the fixed numeric fields that are directly under the barcode on the pallet label. It is also selectable as a human readable field for printing on the body of the label.

BOX SERIAL No - Select to enter the starting box serial #, a maximum of six (6) numeric digits. This number will increment with every BOX LABEL printed, and is part of the fixed numeric fields that are directly under the barcode on the box label. It is also selectable as a human readable field for printing on the body of the label.

MANUF. CODE - Select to enter the manufacturers code, a maximum of six (6) numeric digits. This number will increment with every BOX LABEL printed, and is part of the fixed numeric fields that are directly under the barcode on the box label. It is also selectable as a human readable field for printing on the body of the label.

STATION No - Select to enter the work station number, a maximum of one (1) numeric digit.

VAT NUMBER - Select to enter the vat number, a maximum of three (3) alpha-numeric digits.

FACTORY NUMBER - Select to enter the plant number, a maximum of seven (7) alpha-numeric digits.

HOT-KEY - Select to enable or disable the product hot-key feature, select YES or NO

AUTO PRINT - Select to enable or disable the auto print feature, select YES or NO. When the weight value falls between the MINIMUM and MAXIMUM weight value settings for the selected product, a print will occur. The displayed weight value must decrease to a value below the weight setting in ENABLE WEIGHT before another print can occur

AUTO PALLET PRINT - Select to enable or disable the auto pallet print feature, select YES or NO. If enabled, a pallet label will be printed automatically BEFORE transaction memory accumulators are overwritten.

TARE METHOD - Select AUTO, MANUAL, or AUTO/MANUAL by pressing the <ENTER> key.

* AUTO - This selection will ONLY process transactions using the tare weight value entered in the product file.

* MANUAL - This selection will place AUTOTARE and TARE on the weighscreen of the Controller, and will ONLY process transactions that use a Tare weight value entered by selecting AUTOTARE, or a TARE weight entry from the keypad or accessory keyboard only.

* AUTO/MANUAL - This selection will place AUTOTARE and TARE on the weighscreen of the Controller, and permit a manually entered Tare weight value by either method. When this is performed, the entered Tare weight value will be used to temporarily overwrite the Tare value stored in the product file for one (1) transaction only. If set greater than 0.0, the displayed scale weight must fall below that setting before another label will be printed.

SPECIAL CODE - Select to enter the special code #, a maximum of six (6) numeric digits.

OUTPUT OPTIONS

COM PORT X	
COM PORT	
LOOP BACK TEST	
BAUD SELECTION	
DEVICES	
DEFAULT FORMAT	0.0"
FORM SIZE	
BOX PRINTER FORMAT	
PALLET PRINTER FORMAT	
LABEL PRINTER FORMAT	

50580-31

PROGRAM MENU - Returns the display to the program menu

COM PORT - Enables selection of the desired Com port, Com 2, 3, 4, or 5.

LOOP BACK TEST - See LOOP BACK TEST.

BAUD SELECTION - Enables selection of the desired Baud rate, Parity, Data bits, and Stop bits.

DEVICES - See DEVICE MENU

DEFAULT FORMAT - Loads the Factory default drivers and data print coordinates for the selected device

NOTE: This MUST be performed after selecting a device.

FORM SIZE - sets the form size for the journal printer

BOX PRINTER FORMAT - SEE BOX / PALLET PRINTER FORMAT.

PALLET PRINTER FORMAT - SEE BOX / PALLET PRINTER FORMAT.

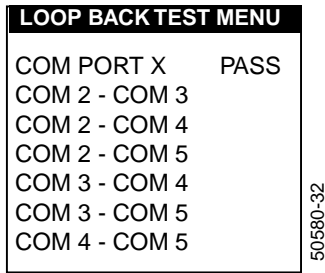
LABEL PRINTER SETUP - SEE LABEL PRINTER SETUP

BOX / PALLET PRINTER FORMAT

Select for formatting data locations for other printers selected only (NOT Barcode printers). Set data locations for the box label, pallet label, journal prints by selecting the distance from the TOP EDGE in inches (as a decimal) and then distance from the LEFT in inches (as a decimal).

LOOP BACK TEST

When selected, the following menu is displayed.



COM PORT X - Upon first entering the Loop Back Test Menu, the currently displayed Com port has a simple PASS-FAIL loop test performed to it. A character is written to the port and read back. If successful, "PASS" is displayed, if not "FAIL" is displayed. The Com port number can be changed via the numeric keypad.

COMX - COMX - For these tests the selected pair of Com ports require connection with a properly wired cable. When the connection is in place and the menu item is selected, an ESC character is transmitted out of the first Com port and received by the second one. If successful, "PASS" is displayed, if not "FAIL" is displayed.

Go to Page 25 for Wiring Instruction.

NOTE:

When performing this test the Baud rate, number of bits, parity, and number of stop bits for both Com ports being tested must be identical.

DEVICES MENU

COM PORT X OFF	
OUTPUT OPTIONS MENU	
COM PORT X OFF	ON
CTS RTS CONTROL	
LABEL PRINTER 3400	
JOURNAL PRINTER PTR - 9402	
TAPE PRINTER 50-3715	
FORM PRINTER 50-3921	
FORM PRINTER OKI 320 / 520	
COMPUTER (PC)	OFF

50580-33

OUTPUT OPTIONS MENU - Returns to the output options display

COM PORT X OFF - Com X is the current port, when a device is selected it will be displayed in the shaded area at the top of the menu screen.

CTS RTS CONTROL - NOT used with barcode printers, may be used for other printer models

LABEL PRINTER 3400 - Place the cursor next to this entry and press the <ENTER> key to scroll through choices to select the correct model label printer

JOURNAL PRINTER 9402 - This can be selected as the device for the current com port by placing the cursor next to this item and pressing the <ENTER> key.

TAPE PRINTER 50-3715 (or 3550)- This can be selected as the device for the current com port by placing the cursor next to this item and pressing the <ENTER> key.

FORM PRINTER 50-3921 - This can be selected as the device for the current com port by placing the cursor next to this item and pressing the <ENTER> key.

FORM PRINTER OKI 320/520 - This can be selected as the device for the current com port by placing the cursor next to this item and pressing the <ENTER> key.

COMPUTER (PC) - Press the <ENTER> key to select;

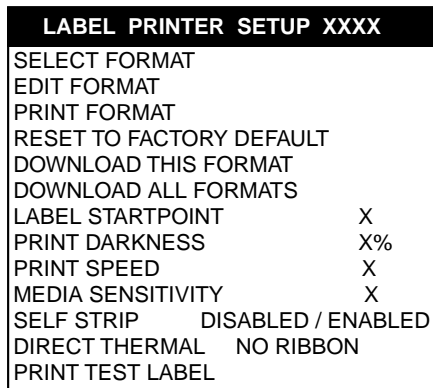
OFF

REAL TIME (transaction record data is sent as it is completed),

or

REPORT MODE (will send transactions to the computer when requested)

LABEL PRINTER SETUP



SELECT FORMAT - Press <ENTER> to scroll and view the available label formats for editing: UPC BOX, CTRL BOX, CTRL PAL, EAN BOX, EAN PAL, HUMANBOX, HUMANPAL, CUSTOM 8, CUSTOM 9, or SUMMARY.

EDIT FORMAT - A new menu for label design is displayed. SEE LABEL DESIGN.

PRINT FORMAT - Prints the current format to an installed Form, Tape, or Journal printer. In the case of multiple printers, the controller will send the data to the First Form Printer Com ports in the following order; Com 2, Com 3, Com 4, then Com 5. The first printer in this order will print the format.

RESET TO FACTORY DEFAULT - Resets label printer to default settings. This will load Label Start, Print Darkness, Print Speed, Media Sensitivity, Self-Strip, and Direct/Thermal Transfer defaults.

NOTE: This MUST be performed after selecting a device.

DOWNLOAD THIS FORMAT - Transmits the selected format to the barcode printer

DOWNLOAD ALL FORMATS -Transmits all label formats to the barcode printer

LABEL START POINT 20 - Sets the first line of the formatted data on the label.

PRINT DARKNESS 0% - Adjusts voltage to the print head for darker or lighter print on media

PRINT SPEED - 30 (3 ips) In inches per second, allows faster or slower label feed time

MEDIA SENSITIVITY 470- A default setting for optimal print. This selection is used with thermal transfer ribbons. The default setting will automatically be selected and loaded based upon the Printer model selected in the DEVICES menu screen.

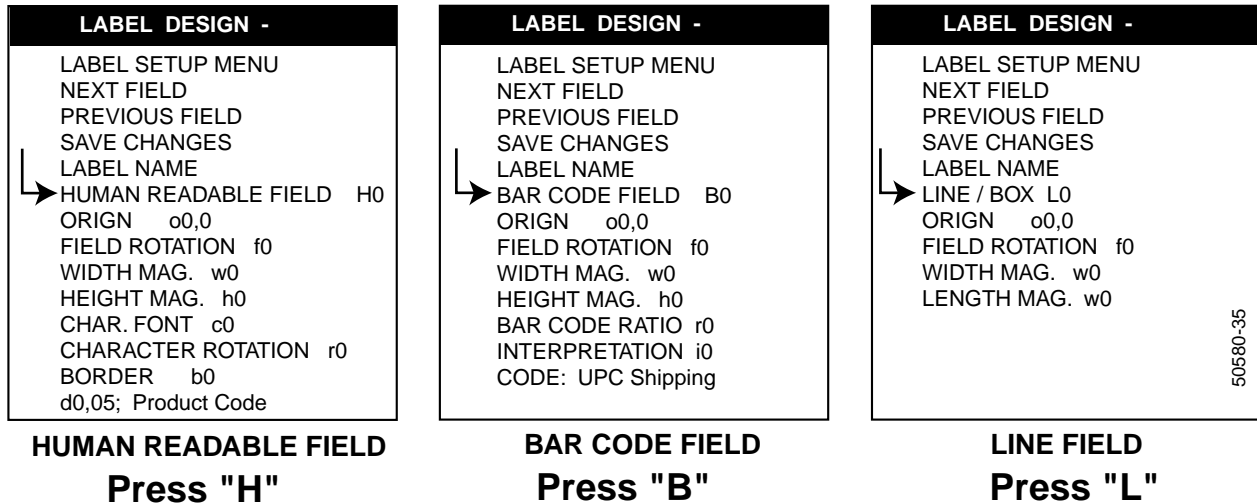
SELF STRIP - When ENABLED; printer will use the label taken sensor (used to have labels removed from the backing). When DISABLED; printer will use the label mark sensor (used with card stock media).

Direct Thermal NO RIBBON - Press <ENTER> to toggle to "Thermal Transfer RIBBON" if ribbon transfer is installed. Ribbon transfer is available as a Product Inquiry.

PRINT TEST LABEL - Will print a test label for the selected format.

LABEL DESIGN

The Barcode application has ten (10) label formats. Selecting EDIT FORMAT at the OUTPUT OPTIONS menu will display the LABEL DESIGN menu, which will allow editing of the selected label format (UPC BOX, CTRL BOX, CTRL PAL, EAN BOX, EAN PAL, HUMANBOX, HUMANPAL, CUSTOM 8, CUSTOM 9, or SUMMARY).



There are three (3) different types of fields (HUMAN READABLE, BAR CODE, and LINE) and three (3) different screens used to modify / edit these fields. To select the desired screen, place the pointer as shown above. Press the "H", "B", or "L" key to select the desired screen.

Each label format has a maximum of 40 fields available (0-39). Once a field has been added to a format, it cannot be deleted from that format. It CAN, however, be given an location that will cause it NOT to print.

There are twenty five (25) fields available containing information from system files, such as time and date, and the programmed information in each product file, such as the Product code and description.

There are five (5) different bar code fields available, and LINE / BOX fields, which are printed borders that may be placed around any field for enhancement.

In addition, additional TEXT items can be added to the label format. These TEXT items can be up to twenty (20) characters long, and would automatically print on the label without any input from the operator.

Example:

"KEEP REFRIGERATED", "DO NOT REFREEZE", "THANK YOU", "CERTIFIED ORGANIC", "NATURAL FLAVORINGS", "HAPPY HOLIDAYS".

NOTE: Do NOT use a Bar code field as the first field in the label format. Refer to Appendix X.

LABEL DESIGN - HUMAN READABLE

LABEL PRINTER SETUP XXXX	
SELECT FORMAT	
EDIT FORMAT	
PRINT FORMAT	
RESET TO FACTORY DEFAULT	
DOWNLOAD THIS FORMAT	
DOWNLOAD ALL FORMATS	
LABEL STARTPOINT	X
PRINT DARKNESS	X%
PRINT SPEED	X
MEDIA SENSITIVITY	X
SELF STRIP	DISABLED / ENABLED
DIRECT THERMAL	NO RIBBON
PRINT TEST LABEL	

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LABEL SETUP MENU - Returns the screen to the Label Setup Menu.

NEXT FIELD - To display the next field.

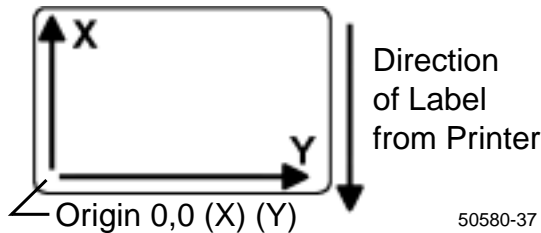
PREVIOUS FIELD - To display the previous field.

SAVE CHANGES - MUST be selected and used to save format.

LABEL NAME - Select to name the Label format, a Maximum of eight (8) alpha numeric characters.

HUMAN READABLE FIELD H0 - Press the "H", "B", or "L" key to select the desired screen

ORIGIN o0,0 - The location of the lower left corner of the field.



50580-37

Fields are located on the label by using X, Y coordinates. The "X" coordinate is to the top of the label, and the "Y" coordinate is from the left side of the label.

The measurement is in 'dots', and there are about 203 dots per inch.

FIELD ROTATION f0 -



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Fields can be rotated counter-clockwise in 90° increments, f0=0°, f1=90°, f2=180°, f3=270°. The location of the lower left corner of the field will be the pivot point.

WIDTH MAG. W0 - Magnifying the width of barcodes or characters, where 1 = 1Xs, 2 = 2Xs

HEIGHT MAG. H0 - Magnifying the height of barcodes or characters, where 1 = 1Xs, 2 = 2Xs

CHAR. FONT c0 - The font (type and size), where c0 = 7 x 9 dots , c1 = 7 x 11, c2 = 10 x 14

CHARACTER ROTATION r0 - Character rotation 90° counter-clockwise

BORDER b0 - A border around a human-readable field (black field w/white characters)

D0,05; Product Code -

D0 refers to a one of twenty five (25) fields available containing information from system files, such as time and date, and the programmed information in each product file, such as the Product code and description.

05 indicates the number of characters for the data item.

D3 refers to fixed text that is printed on all labels. These TEXT items can be up to twenty (20) characters long, and would automatically print on the label without any input from the operator.

To select between **D0** and **D3**, place the pointer next to this line and press the **0** key or the **3** key to toggle between the two settings.

When **D0**, press the <ENTER> key to toggle through the following twenty five (25) selections.

05; Product Code	07; Pallet Net Wt.
07; System Clock Time	07; Factory Number
11; System Clock Date	03; Vat Number
11; Sell By Date	02; Weight Legend
04; Julian Date	10; Product Total Net
07; Net Weight	05; Product Total Cnt
07; Tare Weight	17; Grand Total Net
06; Batch Number	08; Grand Total Count
06; Box Serial Number	20; Description One
06 ;Manufacturers Code	20; Description Two
04; Pallet Serial No.	20; Description Three
04; Pallet Count	07; Tray Tare Weight
	06; Special Code

NOTE: The preceding number refers to the number of characters for the data item.

When **D3**, press the <ENTER> key, key in the required text, and press the <ENTER> key.

LABEL DESIGN - BARCODE -

These are fields that are printed in the barcode type selected in Product Files.

LABEL DESIGN -	
LABEL SETUP MENU	
NEXT FIELD	
PREVIOUS FIELD	
SAVE CHANGES	
LABEL NAME	
BAR CODE FIELD	B0
ORIGN	o0,0
FIELD ROTATION	f0
WIDTH MAG.	w0
HEIGHT MAG.	h0
BAR CODE RATIO	r0
INTERPRETATION	i0
CODE:	UPC Shipping

50580-39

LABEL SETUP MENU - Returns the screen to the Label Setup Menu.

NEXT FIELD - To display the next field.

PREVIOUS FIELD - To display the previous field.

BAR CODE FIELD

SAVE CHANGES - MUST be selected and used to save format.

LABEL NAME - Select to name the Label format, a Maximum of eight (8) alpha numeric characters.

ORIGIN o0,0 - The location of the lower left corner of the field.

FIELD ROTATION f0 - Fields can be rotated in 90° increments, f0=0°, f1=90°, f2=180°, f3=270° The location of the lower left corner of the field will be the pivot point.

WIDTH MAG - Magnifying the width of barcodes, where 1 = 1Xs, 2 = 2Xs

HEIGHT MAG - Magnifying the height of barcodes, where 1 = 1Xs, 2 = 2Xs

BAR CODE RATIO - The ratio of 'wide' elements to 'narrow' elements (bar widths)

INTERPRETATION - The human-readable 'explanation' prints below the barcode (on/off)

CODE - CODE is the name of the Barcode image that will be printed. The selections are limited to the barcodes that are part of the default label formats. Press the <ENTER> key to toggle through the available selections.

UPC Shipping / CONTROL I 2/5 Box / I 2/5 Pallet / UCC EAN-128 Box / UCC EAN-128 Pallet

LABEL DESIGN - LINE / BOX

These fields are borders, that may be placed around any field for enhancement.

LABEL DESIGN -	
LABEL SETUP MENU	
NEXT FIELD	
PREVIOUS FIELD	
SAVE CHANGES	
LABEL NAME	
LINE / BOX L0	
ORIGN o0,0	
FIELD ROTATION f0	
WIDTH MAG. w0	
LENGTH MAG. w0	

50580-40

LINE FIELD

LABEL SETUP MENU - Returns the screen to the Label Setup Menu.

NEXT FIELD - To display the next field.

PREVIOUS FIELD - To display the previous field.

SAVE CHANGES - MUST be selected and used to save format.

LABEL NAME - Select to name the Label format, a Maximum of eight (8) alpha numeric characters.

FIELD ROTATION f0 - Fields can be rotated in 90° increments, f0=0°, f1=90°, f2=180°, f3=270° The location of the lower left corner of the field will be the pivot point.

WIDTH MAG wX - Magnifying the width of lines, where 1 = 1Xs, 2 = 2Xs

LENGTH MAG. IX - Magnifying the length of lines in Dots per inch.

HARDWARE MENU

DISPLAY CONTRAST - Select this item to adjust the display intensity, using the <UP> and <DOWN> arrow keys.

AUDIBLE ALARM ON / OFF - Select to enable or disable the audible alarm feature.

LOADCELL DIAGNOSTICS - Will present a screen listing all the loadcells in the system, and display either GOOD or BAD.

AUDIT TRAIL

Select this prompt to show the system audit trail. The audit trail logs the last time and date each scale was calibrated and / or configured as well as a consecutive counter.

The Barcode Application will only show for Scale 1, as the "NUMBER SCALES = 1" cannot be changed. The count begins at a random number selected by the 2500 Series Instrument, and then increments upwards.

Section 3: Programming

Entering data: Product files, Program options, Product Hot Keys.

PRODUCT FILE MENU

PRODUCT FILE XXXXX	
<PRODUCT MENU>	
DESCRIPTION	
TARE	0.00 LB
MINIMUM WEIGHT	0.00 LB
MAXIMUM WEIGHT	99.00 LB
BOX LABEL	
PALLET LABEL	
FIXED / RANDOM	RANDOM
BOXES per PALLET	0
SELL OFFSET	0
TRAY TARE	0.00 LB
RESTORE CHANGES	

Up to 1134 different products can be stored in the 2500 Controllers memory. These Programmable features apply to the specific product only.

S4-1: Creating a NEW Product File:

- 1: From the weigh screen, go to the PRODUCT MENU.
- 2: Place the pointer next to PRODUCT ID and press the <ENTER> key.
- 3: The screen will prompt "ENTER PRODUCT ID".
- 4: Type the Product ID number, up to 5 digits, and press the <ENTER> key.

NOTE: The 2500 Controller will prompt "FILE NOT FOUND". PRESS <ENTER> TO CREATE OPERATE ANY OTHER KEY TO EXIT".

- 5: Place the pointer next to DESCRIPTION and press the <ENTER> key.
- 6: Type the first description line (up to 20 characters) and press the <ENTER> key.
- 7: Type the second description line (up to 20 characters) and press the <ENTER> key.
- 8: Type the third description line (up to 20 characters) and press the <ENTER> key.

SEE PAGE 19 FOR PROGRAMMING DETAILS.

S4-2: PROGRAM OPTIONS

PROGRAM OPTIONS	
<PROGRAM MENU>	
TICKET No	123456
BATCH No	123456
→ PALLET SERIAL No	1234
BOX SERIAL No	123456
MANUF. CODE	123456
STATION No	1
VAT NUMBER	123
FACTORY NUMBER	1234567
HOT KEY	OFF / ON
AUTO PRINT	NO / YES
AUTO PALLET PRINT	NO / YES
TARE METHOD	AUTO
PRINT ENABLE WT	0.00 LB
SPECIAL CODE	123456

These Programmable features are Global, and they apply to all label formats.

SEE PAGE 27 FOR PROGRAMMING DETAILS.

S4-3: PRODUCT HOT KEYS

KEY	CODE	KEY	CODE
00-	-----	12-	-----
01-	-----	13-	-----
02-	-----	14-	-----
03-	-----	15-	-----
04-	-----	16-	-----
05-	-----	17-	-----
06-	-----	18-	-----
07-	-----	19-	-----
08-	-----	20-	-----
09-	-----	21-	-----
10-	-----	22-	-----
11-	-----	23-	-----
<PRINT> = Print		<ZERO> = Clear	

A Product Hot Key is a feature of the Barcode application that is used to recall a 5 digit Product ID with an assigned 2 digit number. This permits faster Product ID recall for up to 100 more frequently used products.

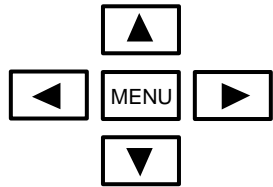
Creating a NEW hot key File:

- 1: From the weigh screen, go to the PRODUCT MENU.
- 2: Place the pointer next to PRODUCT HOT-KEYS and press the <ENTER> key.
- 3: The screen above will be displayed. Pressing the arrow keys will locate the pointer next to the desired 00-99 Hot Key number, including scrolling screens. Place the pointer next to the desired Hot Key number, and press the <ENTER> key.
- 4: Type the Product ID number, up to 5 digits, and press the <ENTER> key

SEE PAGE 23 FOR PROGRAMMING DETAILS.

Section 4: Operation

4.1: KEYBOARD OPERATION



Arrow Keys - Select to move the location of the display pointer.



Menu Key - Select to enter the PRIMARY MENU. Alternately, this key will return the display to the previous screen.



Zero - Select to set the weight display to Center of Zero.



Print - Select to send data to all installed printers.

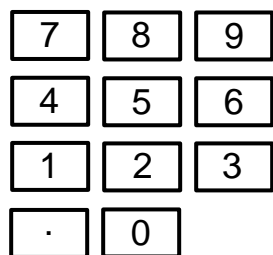


Units - Select to change the displayed weight units, dependant upon program settings in the calibration menu.

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Enter - Select to enter selections into memory during programming.

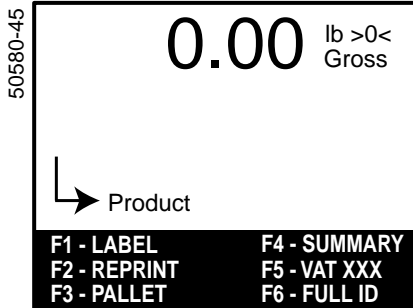


0 through 9 - Select to enter numeric data.

4.2: Basic Operation

From the weigh screen, the Operator will key the product number with the 0-9 keys, and press the <ENTER> key to recall a previously entered Product ID. The article to be processed is then placed on the scale, and the <PRINT> key is pressed. Alternately, a programmable automatic print is available (if enabled and programmed) and would automatically print when the weight display is stable.

4.3: Weigh Screen Descriptions



After applying AC power to the Controller, the display will show a warm up testing screen, and then display as shown.

The shaded sub menu at the bottom of the screen displays the first page of options and controls that can be selected with the touch keypad, or the Accessory 709 keyboard.

To select via the touch keypad: Press and release the <RIGHT ARROW> key, and the desired number 1, 2, 3, 4, 5, or 6. To select via the Accessory 709 keyboard: Press the desired Function key, F-1 through F-6.

F-1 = LABEL / NO LABEL - This selection determines whether or not a Barcode label is printed. If NO LABEL is selected, a weighment will still be recorded in Transaction memory.

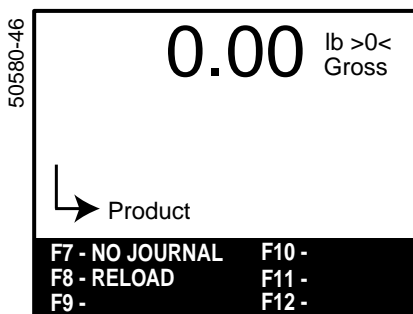
F-2 = REPRINT - This selection will reprint the last printed label.

F-3 = PALLET / BOX - This selection determines which pre-programmed label will be printed.

F-4 = SUMMARY - This selection will print the summary label.

F-5 = VAT XXX - This selection will cause the Controller to prompt "NEW VAT NUMBER". Key a new VAT NUMBER (three (3) digit alpha - numeric) and press the <ENTER> key.

F-6 = FULL ID / HOT KEY - This selection will determine the format of the PRODUCT ID number entered. FULL ID will require the full five (5) digit Product ID number to be keyed and entered. HOT KEY will require the previously programmed two (2) digit Hot key number to be used



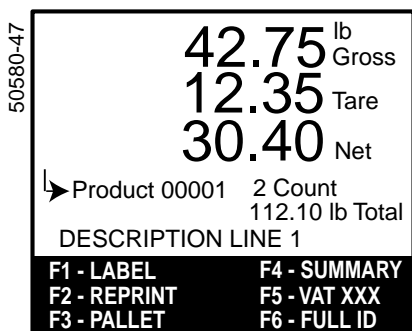
To select the second page of options and controls, press and release the <RIGHT ARROW> key, and then the <MENU> key. The screen will appear as shown.

F-7 = NO JOURNAL / JOURNAL - Select to enable the Journal Printer, if installed.

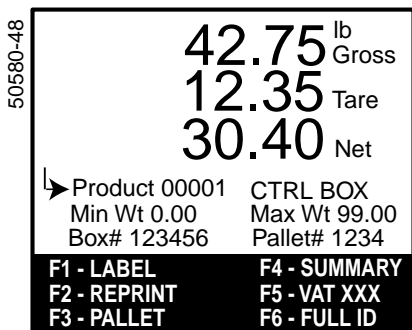
F-8 = RELOAD - Select upon replacing the roll of Label media in the Barcode printer.

F-9 / F-12 - These are allocated for future Barcode applications and Special Systems.

There are two (2) different formats available for the Weighscreen. These are selectable by pressing and releasing the <LEFT ARROW> key, and then the <MENU> key.



This Format will display the Product ID number, the current Count, the current weight total, and Description line one.



This Format will display the Product ID number, the current label format in use, the Minimum and Maximum weight settings, the current Box number, and the current Pallet number.

4.4: TARE METHODS

There are three (3) different types of operation,

4.4 A: Tare Method = Automatic :

In Automatic mode, the tare that was entered into the product file is shown on screen and subtracted from the gross weight, the result being the net weight. All data (except gross and tare weights) that was selected will be printed on the box label. If AUTO PRINT for box labels was enabled, the print will take place when the scale is stable and within the Min and Max weight settings. Each subsequent weighment will advance the 'count' and add to the 'total' weight. If pallet options were configured, after a preset number of boxes, a pallet label can be printed automatically, or manually.

4.4 B: Tare Method = Manual :

With the display at the weigh screen, place the product to be weighed on the platform. With the cursor at 'Product' enter the product number and press ENTER. The product name and number will be shown as will the 'count', and 'total' weight. The box tare is entered manually and a net weight is calculated. This is done by placing the cursor next to the 'Tare' legend, pressing ENTER, entering the correct tare, and pressing ENTER. The manual tare entry is not saved to the product record. All data (except gross and tare weights) that was selected will be printed on the box label. The tare can be momentarily (it is not stored) overwritten if the operator sees an incorrect tare entry. This is done by placing the cursor next to the 'Tare' legend, pressing ENTER, entering the correct tare, and pressing ENTER. If AUTO PRINT for box labels was enabled, the print will take place when the scale is stable and within the Min and Max weight settings. Each subsequent weighing will advance the 'count' and add to the 'total' weight.

If pallet options were configured, after a preset number of boxes, a pallet label can be printed automatically, or manually. Autotare can also be used. Place the empty container on the scale, select AUTOTARE, recall product, then print.

4.4 C: Tare Method = Auto/Manual :

With the display at the weigh screen, place the product to be weighed on the platform. With the cursor at 'Product' enter the product number and press ENTER. The product name and number will be shown as will the 'count', and 'total' weight. The tare that was entered into the product file is shown on screen and subtracted from the gross weight, the result being the net weight. All data (except gross and tare weights) that was selected will be printed on the box label. The tare can be momentarily (it is not stored) overwritten if the operator sees an incorrect tare entry. This is done by placing the cursor next to the 'Tare' legend, pressing ENTER, entering the correct tare, and pressing ENTER. If AUTO PRINT for box labels was enabled, the print will take place when the scale is stable and within the Min and Max weight settings.

Each subsequent weighing will advance the 'count' and add to the 'total' weight. If pallet options were configured, after a preset number of boxes, a pallet label can be printed automatically, or manually. The Auto/Manual tare mode recalls the tare stored in the product file, but allows a manual tare entry for a single print.

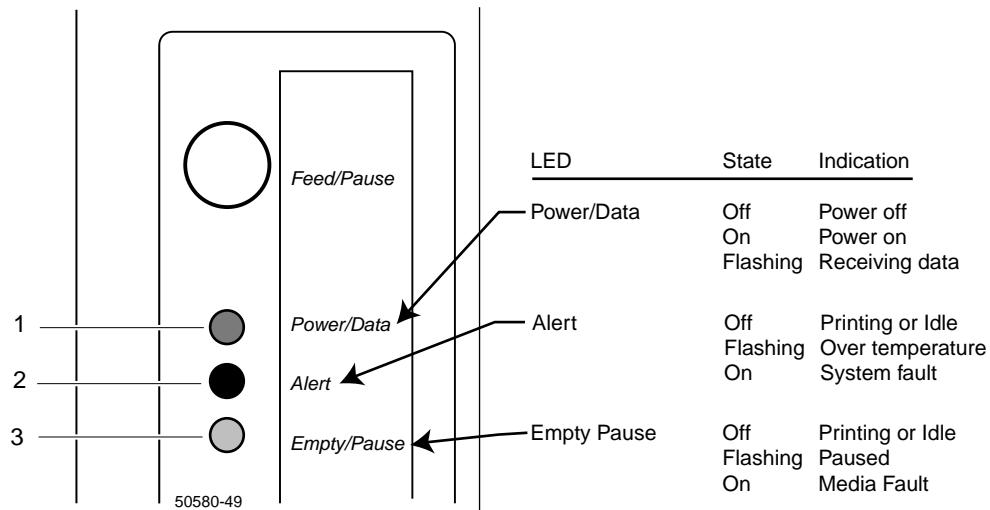
4.5: TRANSACTION STORAGE

The 2500 Controller's transaction file will store 2000 transactions (for all products) before it begins to over-write itself. A warning will be displayed at the 2.5% level (50 transactions) as a reminder to print the total data desired and to reset the product totals.

The Transactions are held in memory, and are available for a printed report, or uploading in a comma delimited format via the WINLOGIX™ PC software utility program. That uploaded data can then be imported into a spreadsheet or database PC software program for further processing.

4.6: Printer Models 3400 & 4420

The LED's on the front of printer are used as status indicators.



Over-temperature

If the printer overheats, the Alert flashes and the printer stops. Do not try to troubleshoot or adjust the printer-just allow the printer enough time to cool down and it will resume operation on its own.

Media or system faults

If the Empty/Pause or the Alert LED remains on, your printer is experiencing a media or system fault. For help, see Section X, "Troubleshooting."

4.7: Printer; Model 7421

The power light is used as an indicator for "power-on" and possible problems.

<u>Light</u>	<u>State</u>	<u>Indication</u>
Green	Off	Power OFF
	On	Power ON
	Flashing	Receiving data
Red	On	System Fault
	Flashing	Over-Temperature
Orange	On	Media Fault
	Flashing	Paused

4.8: Loading Label Stock, 3400 & 4420

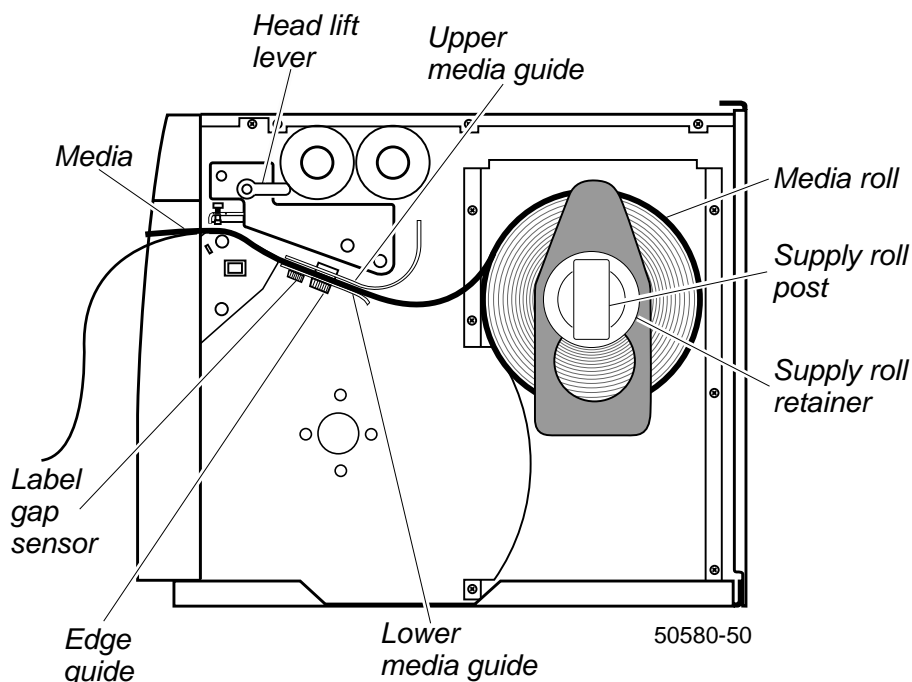
Self strip printing removes the label from the waxed backing immediately after printing, and the label can then be applied immediately. The rewinder hub collects the backing after it passes over the self-strip assist roller, and can hold the backing from an entire roll of media.

Media Sensitivity:

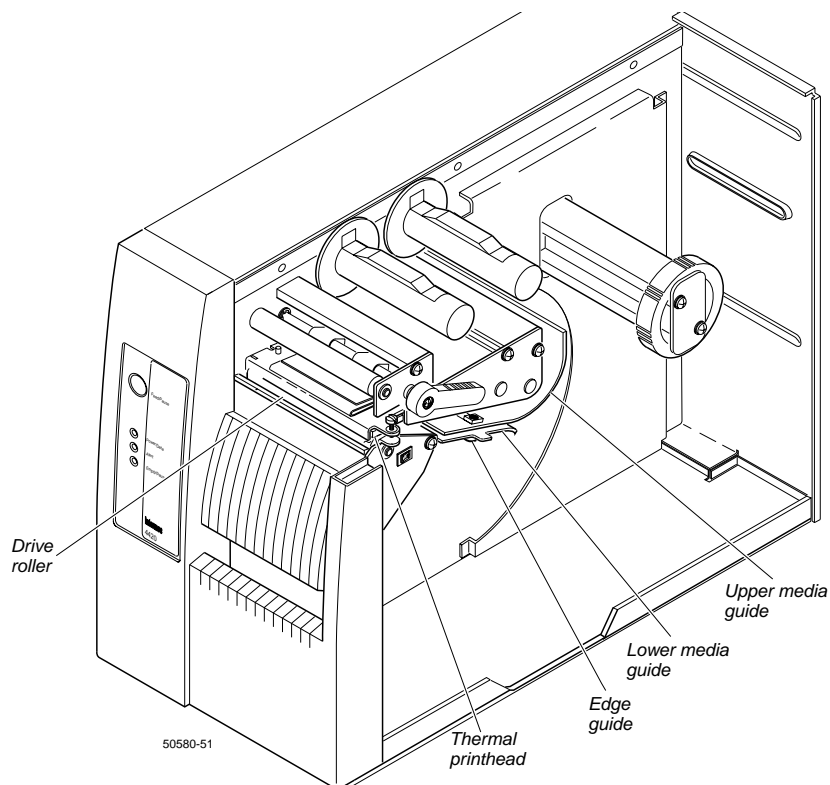
There should be a small label with a three-digit Media sensitivity number printed on it attached to the roll of media or a 15-digit number stamped on the side of the media roll. The Media sensitivity setting is used to optimize print quality and print speed. The three-digit media sensitivity number (MSN) specifies the amount of heat required by the printhead to image a label, and is set to the proper default when the printer type is selected under DEVICES. To change the media sensitivity number, from the 2500 controllers weigh screen go to PROGRAM MENU, OUTPUT OPTIONS, LABEL PRINTER SET-UP. To see the current sensitivity setting of the printer, print a software configuration label.

To load self-strip media:

- 1:** Raise the printhead by rotating the head lift lever clockwise until the printhead disengages.
- 2:** Turn the supply roll retainer counterclockwise to release it and slide it to the outer end of the supply roll post. Turn it clockwise to lock it in place.
- 3:** Place the media roll on the supply roll post and position it firmly against the inside wall of the printer.
- 4:** Turn the supply roll retainer counterclockwise and slide it up to the edge of the media roll. Turn the supply roll retainer clockwise to secure.

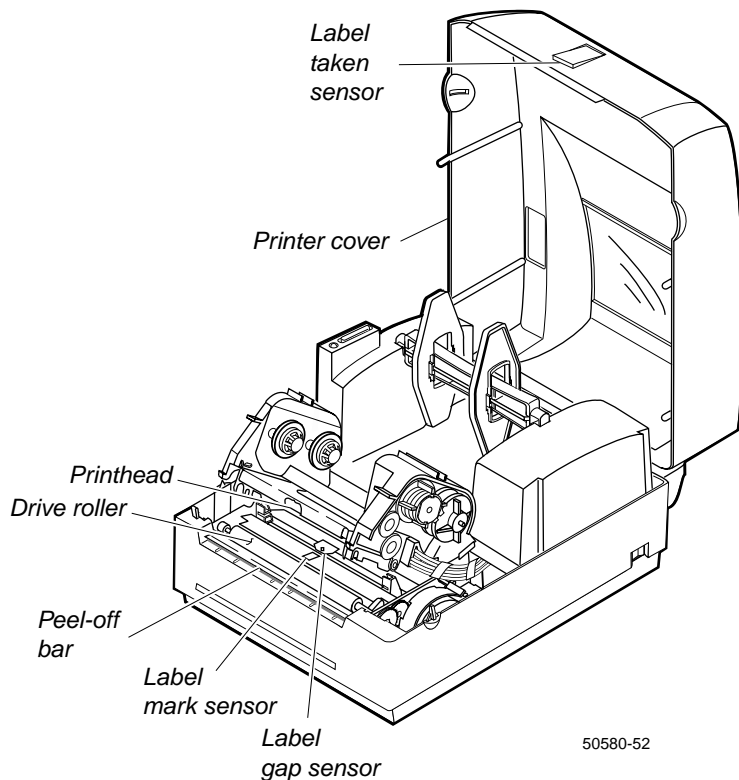


- 5:** Unscrew the edge guide and slide it to the outer edge of the lower media guide. (Pull the lower media guide down for easy access to the media path).
- 6:** Unroll several inches of media, insert it between the upper media guide and the lower media guide, and out the front of the printer.
- 7:** Release the lower media guide and adjust the edge guide to position the media firmly against the inside wall of the printer.
- 8:** Pull out 10 to 12 inches of media and remove the exposed labels from the backing.
- 9:** Open the media access door (3400 and 4420 only) and thread the media backing under the self-strip assist roller and over the rewinder hub in a clockwise direction.
- 10:** Remove the clasp from the rewinder hub and wind approximately 2 inches of media backing clockwise over the rewinder hub.
- 11:** Secure the backing to the rewinder hub by snapping the rewinder clasp onto the rewinder hub. Turn the rewinder hub clockwise to remove all slack from the media backing between the tear bar and the rewinder hub.
- 12:** Close the media access door (3400 and 4420 only).
- 13:** Rotate the head lift lever counterclockwise until it locks.
- 14:** Ensure the 2500 controller is set to enable self-strip. From the weigh screen, go to PROGRAM MENU, OUTPUT OPTIONS, LABEL PRINTER SET-UP.
- 15:** Press F8 (RELOAD) to advance a label through the printer. Grasp the leading edge of the label where it has separated from the backing and pull it away from the printer.
- 16:** Lower the printer cover. The printer is now ready to print labels.



4.9: Loading Media for Self-Strip Printing in the 7421

- 1:** Remove power to the printer
- 2:** Open the cover
- 3:** Open the print head by pulling the yellow lever forward and gently pulling the top part UP
- 4:** Place the media roll in the far back of the printer so labels will feed from the TOP of the roll
- 5:** Open the media guides (white plastic) fully by moving the nylon gear on the left side.
- 6:** Insert the media, label side UP, through the rear of the printhead assembly.
- 7:** Move the media guide gear until the stock is in the slots of the guides, but not too tight.
- 8:** Pull out enough media to exit the front of the printhead assembly.
- 9:** Lower the upper part of the printhead and gently press until it locks.
- 10:** Place the roll on the spindle and set spindle into slots provided.
- 11:** Close the cover and repower printer.
- 12:** Print a test label to verify print.



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Section 5: Maintenance

To maintain the quality of the printed labels and to extend the useful life of the printer, it must be cleaned on a regular basis. The following supplies will be required in order to clean the printer safely and effectively.

Isopropyl alcohol	Cleaning brush
Cotton swabs	Vacume cleaner
Soapy water (mild detergent)	Clean, lint free cloth.

Reccomended Cleaning Intervals:

<u>PRINTER PART</u>	<u>CLEANING INTERVAL</u>
Printhead	Clean after every two (2) rolls of media, or 12,000 inches.
Drive roller & Tear bar Media path Edge & Media guides Self Strip Roller Label sensors Pinch roller	Clean after every five (5) rolls of media. The use of hi-tack adhesive requires cleaning after every roll. If using tag stock or other continuous media, it may be necessary to clean after every five (5) rolls of media. Harsh, dirty environments will require more frequent cleaning.
Printer cover	Clean as necessary.

WARNING:

UNPLUG THE POWER CORD AND REMOVE THE PRINTER FROM AC POWER BEFORE CLEANING ANY PART OF THE PRINTER.

5.1: Cleaning the Printhead, All Models

In order for the printhead to provide good print quality, it must maintain close contact with the media. Therefore, cleaning media debris from the printhead is very important. Clean after every roll ,or 6000 inches of media for the 3400 & 4420s, 1800 inches for the 7421.

CAUTION :

The printhead is manufactured from ceramic material and is easily damaged. Do NOT use sharp objects such as knives or screwdrivers to scrape the printhead clean. Cleaning with hard, sharp objects WILL DAMAGE the printhead. Clean only with a cotton swab, and/or a clean, lint-free cloth damp with isopropyl alcohol.

To clean the printhead (All models)

- 1: Unplug the power cord and remove the printer from AC power.
- 2: Open the cover.
- 3: Rotate the head lift lever clockwise until the printhead releases. Rotating the head lift lever raises the printhead to allow for cleaning. On the 7421, pull the yellow release lever forward.
- 4: Remove the media and ribbon (if necessary).
- 5: Use a cotton swab moistened with alcohol to remove any dirt, adhesive, or debris from the print surface on the bottom of the printhead.
- 6: Wait 5 to 10 seconds for the print surface to dry. Replace the media and ribbon.
- 7: Engage the printhead by rotating the head lift lever counterclockwise until it locks in place.
- 8: Close the cover when completed.

5.2: Cleaning the Label Sensors (All models)

Three label sensors on the printer require regular cleaning:

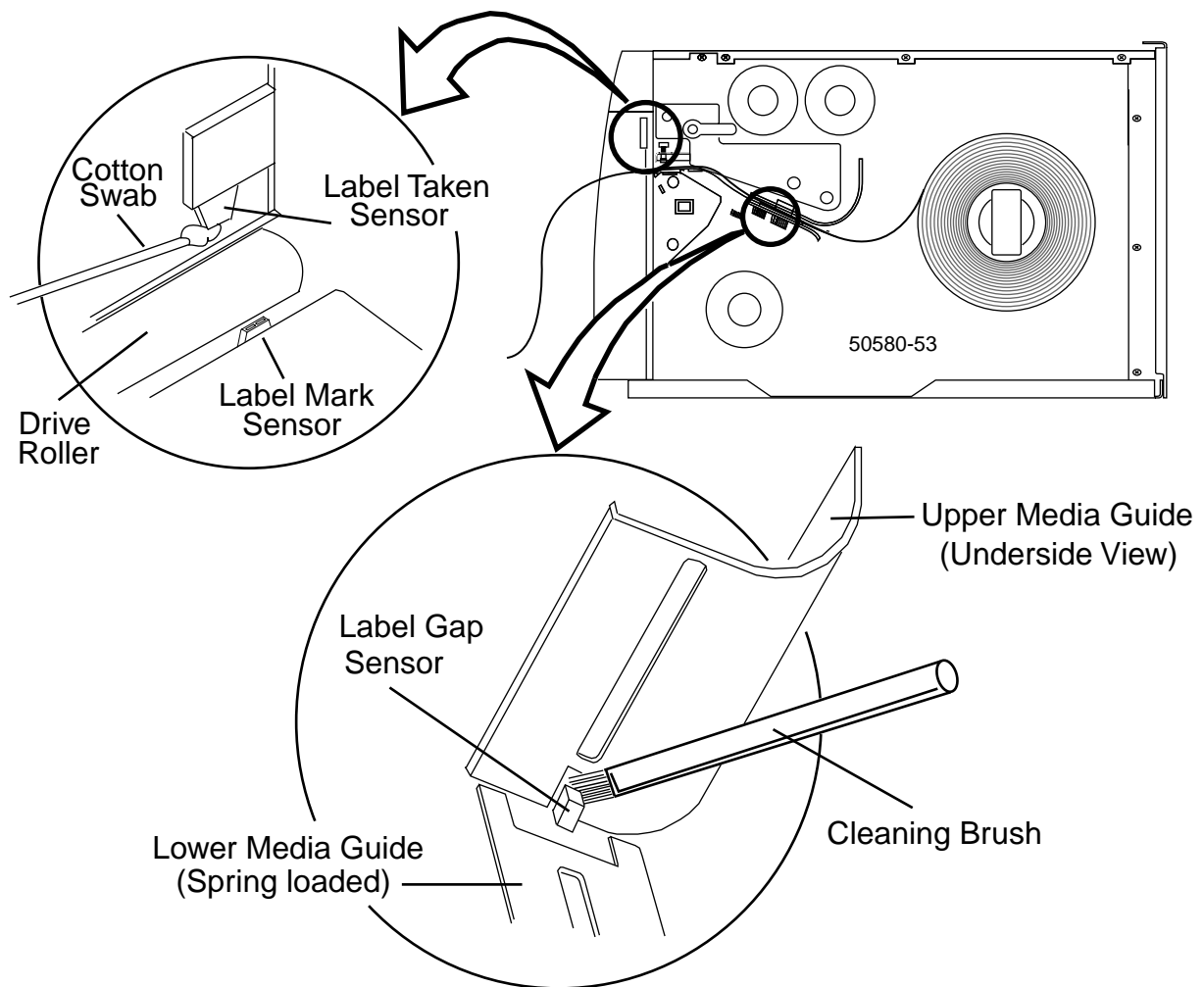
Label taken sensor
Label mark sensor
Label gap sensor

To clean the label sensors (All models)

- 1: Unplug the power cord and remove the printer from AC power.
- 2: Open the cover.
- 3: Rotate the head lift lever clockwise to raise the printhead to allow access to the label mark sensor. On the 7421, pull the yellow lever forward
- 4: Remove the media and ribbon (if necessary)
- 5: Clean the label taken sensor* with a cotton swab moistened with isopropyl alcohol
- 6: Pull down on the lower media guide to expose the label gap sensor. Using a cleaning brush or vacuum, remove all debris and dust from the label gap sensor
- 7: Clean the label gap sensor with a cotton swab and alcohol
- 8: Replace the media and ribbon
- 9: Engage the printhead by rotating the head lift lever counterclockwise until it locks in place
- 10: Lower the cover

*Note: The 7421's Label Taken Sensor is located on the front of the top cover.

Label Sensor Locations



5.3 Cleaning the Drive Roller and Tear Bar (All models)

Cleaning the drive roller and tear bar preserves print quality by maintaining close contact between the media and the printhead.

To clean the drive roller and Tear Bar (All models)

- 1:** Turn the On/Off switch to the off position and remove the power cord.
- 2:** Raise the cover.
- 3:** Rotate the head lift lever clockwise to release the printhead (7421 pull the yellow lever forward)
- 4:** Remove the media and ribbon (if necessary).
- 5:** Clean the drive roller by using a cloth dampened with isopropyl alcohol. Move the cloth over the drive roller in a side-to-side motion. Make sure to rotate the roller so that you can clean all areas.

Note: Rotating the TTR assist roller toward you enables you to clean the entire drive roller surface.

6: Clean both sides of the tear bar (peel-off bar 7421) with a cloth dampened with isopropyl alcohol. Remove all traces of dust, paper, and adhesive.

7: Replace the media and ribbon.

8: Engage the printhead by turning the head lift lever counterclockwise until the printhead locks.

9: When finished cleaning, lower the cover.

5.4: Cleaning the Media Guides and Media Path (3400 & 4420)

You should clean the media guides and media path regularly to keep debris off the media surface and printhead where irregularities can spoil print quality or damage the printhead. Cleaning the guides also prevents the media from skewing or improperly tracking as it travels through the paper path which can result in smeared images and print off the side of the label. Always clean the media guides immediately after a label jam in the printer.

To clean the media guides and media path (3400 & 4420)

1: Turn the On/Off switch to the off position and remove the power cord.

2: Raise the cover.

3: Remove the media and ribbon (if necessary).

4: Pull down on the lower media guide to open up the media path (3400 & 4420 only).

5: Use the cloth moistened with isopropyl alcohol to clean the upper and lower media guides. Be sure to remove all traces of debris. Release the lower media guide.

6: Remove all traces of dust, paper, and adhesive from the media path with a soft bristle brush or vacuum.

7: Replace the media and ribbon.

8: When finished cleaning, lower the cover.

Section 6: Printer Operation Problems

<u>SYMPTOM</u>	<u>POSSIBLE CAUSES</u>	<u>SOLUTION</u>
No power or loss of power	Damaged or disconnected AC power cable	Check AC Power. Replace the cable if damaged.
	Printer circuit breaker tripped.	Cycle power to printer.
Labels stop feeding through the printer	Printer is out of media.	Load new media.
	Label stock incorrectly loaded	Check the media path.
Printer slows down	Media is sticking to the paper path	Clean paper path thoroughly
	Incorrectly set print speed	Set correct ips speed
	Printer set for continuous label stock	Set media type
The Alert LED flashes and printing stops	Printhead has overheated	Allow the Printer time to cool down, It will resume printing automatically
	Media fault	Check the media path. Reload media.
	The printhead is up	Ensure the printhead is down.
	Sensor type set incorrectly	Configure the printer for the correct sensor.
	Incorrectly loaded media	Reload the media
	Printer is out of media	Load new media
	One of the sensors is incorrectly positioned.	Adjust the label gap sensor or the label mark sensor to the correct location for the label stock being used

Appendix I: Data Specifications:

Report uploaded to computer with Winlogix (data)

1: Barcode instrument set to DEVICES, COMPUTER, REPORT MODE for data save

Sta#	Prod#	Net WT	Box Ser#	Vat#
5,	00001,	8.75,"lb",	000037,	"101",,,
5,	00002,	7.75,"lb",	000038,	"101",,,
5,	00003,	8.90,"lb",	000039,	"101",,,
5,	00003,	28.90,"lb",	000040,	"101",,,
5,	00002,	27.75,"lb",	000041,	"101",,,
5,	00001,	88.70,"lb",	000042,	"101",,,
5,	00001,	58.70,"lb",	000043,	"101",,,
5,	00001,	48.75,"lb",	000044,	"101",,,
5,	00001,	48.70,"lb",	000045,	"101",,,

Note: Data is comma delimited ascii format. Actual Data form shown below.

```
5,00001, 8.75,"lb",000037,"101",,,  
5,00002, 7.75,"lb",000038,"101",,,  
5,00003, 8.90,"lb",000039,"101",,,  
5,00003, 28.90,"lb",000040,"101",,,  
5,00002, 27.75,"lb",000041,"101",,,  
5,00001, 88.70,"lb",000042,"101",,,  
5,00001, 58.70,"lb",000043,"101",,,  
5,00001, 48.75,"lb",000044,"101",,,  
5,00001, 8.70,"lb",000045,"101",,,
```

2: Real Time data with barcode instrument set to DEVICES, COMPUTER, REAL TIME for instant data transmission:

```
5,00001, 8.75,"lb",000037,"101",,,
```

The same data is transmitted in real time, in the same format, when PRINT is pressed, or with AUTOPRINT enabled, the weight is stable.

3: Product Data printed in Product Review, PRINT PRODUCT LIST

Station No. 5 12:46PM 12-17-99

<u>Product</u>	<u>Description</u>
00001	Gump's Shrimp
00002	Grade A Thighs
00003	Grade A Legs
00004	Chicken Stew

4: Product Data printed in Product Review, PRINT PRODUCT TOTALS

Station No. 5 12:46PM 12-17-99

Product	Count	Total
00001	6	302.30lb
00002	5	148.65lb
00003	4	135.50lb
Total	15	586.45lb

5: Journal print, Transaction, 50-3921, with default format

Station No : 5 12:17-99 1:17PM
Product Code: 00002
Tare : 2.25lb
Box Net : 7.75lb
Box Serial : 000055

6: Journal print, Pallet, 50-3921, with default format

Station No : 5 12:17-99 1:17PM
Product Code : 00002
Pallet Serial : 0035
Pallet Net : 97.70
Pallet Count : 0002