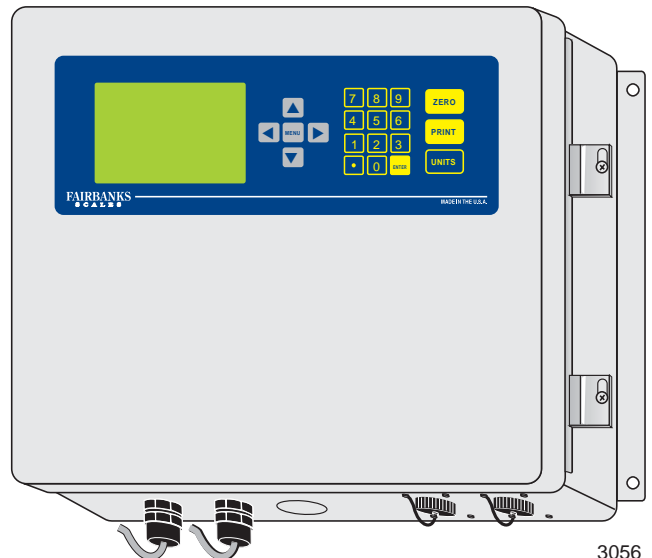




2500 Q Series Flash Instrument with Intalogix® Technology

Model: 2500 - QF1



Amendment Record

IND-HR500-QF1 Indicator
with Intalogix® Technology
50174 / SJ 4667

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

Created

Issue #1

Issue #2

Issue #3

Issue #4

Issue #5

Issue #6 04/02 Updates due to Software modifications

Issue #7 07/03 Added Float Switch, Remote Inputs

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.

Table of Contents

Section 1: Description	
A. Description	4
Section 2: Functions	
A. Front Panel	11
B. Sealing	12
Section 3: Password/Security Code	
A. Use of Password/Security Code	13
B. Password/Security Code Maintenance	14
C. Configuration Menu Password	14
Section 4: Operator Section	
A. WEIGH ONLY, Main Menu	15
B. IN/OUT, Main MEnu	16
C. Basic Operations Summary	17
D. Basic IN/OUT Weighing	19
Section 5: Programming	
A. General Programming Instructions	20
B. Operation Menu	21
C. Modem Service	22
D. Configuration Menu	24
Section 6: Features	
A. Report Field Priority	34
B. Search Field Feature	36
Section 7: Diagnostics	
A. Loadcell Failure	38
B. High Water in Scale X	38
C. Please Wait, Communicating Wait Computer	38
<i>Appendix I: A Typical Program Print-Out</i>	<i>39</i>
<i>Appendix II: Interface to Printers & Remote Displays</i>	<i>43</i>
<i>Appendix III: Com Ports Pin Out, HR2500-QF1</i>	<i>45</i>
<i>Appendix IV: Computer Output, COM2 or COM3</i>	<i>46</i>
<i>Appendix V: ASCII Chart</i>	<i>57</i>

SECTION 1: Description

A. Description:

The IND-2500-QF1 is configured to use “Flash” applications with the IN/OUT weighing option standard in 2500-QF1 indicators.

NOTE: Do NOT use F2 applications as they will NOT function in an QF1.

The platform is interfaced to the indicator through the QMB ACC-3000-1. The indicator can be connected to a variety of devices through the three communications ports. A port for an optional keyboard, ACC-709 is provided.

Hardware Specifications:

- LED graphic display (158 x 128 or 16 lines @ 26 (5x7 matrix size)characters/line)
- LED backlighting (yellow)

Character Sizes:

- 5 x 7 normal
- 5 x 14 normal enhanced
- 10 x 14 large
- 15 x 21 extra large

Memory:

- 64K battery-backed (battery life, two years typically)
- Expansion to 320K

Serial I/O:

- 20mA Optically Isolated Remote display interface
- COM 2 Full 9 pin (modem compatible) RS232C
- COM 3 RS232C (4 wire)

Flow Control:

- Hardware CTS/RTS, Software XON/XOFF

Parallel I/O:

- 4 Optically DC isolated inputs
- 4 Optically isolated DC outputs, TTL outputs

Keyboard:

- Oversized keypad, 9 function keys 0 through 9 and decimal point

- Optional 104 key PC compatible alphanumeric keyboard ACC-709

Clock:

- Real time clock, date of the week, 12 hour am/pm, month/day/year date format

Peripherals:

- 50-3925 Ticket Printer
- 50-3950 Ticket Printer
- 50-3960 Ticket Printer
- SP 2000 Ticket Printer
- SP 2200 Ticket Printer
- PTR 610 Ticket Printer
- 50-3715 Tape Printer
- 50-3921 Form Printer (tickets and/or reports)
- Okidata 320/520 Form Printer
- Remote display continuous or demand display
- Continuous, refresh after each display update cycle
- Demand, refresh after each print cycle
- Time can be programmed to be shown when weigh data is at zero for 10 or more seconds.
- Custom Driver, commands to control printers or a computer program interface

Computer: Winlogix Software is available to support a number of data transfers

Modem: Hayes compatible modems from 300 baud to 19200 baud (ACC 2020)

Number of Scales:

- 1 to 4 (maximum 8 load cells)
- Each scale can be set up with the following parameters:
 - Scale units (lb,kg,ton,tonne)
 - Weight conversion (lb,lb/kg, lb/ton, lb/tonne, kg, kg/lb, kg/ton, kg/tonne, ton, ton/lb, ton/kg, ton/tonne, tonne, tonne/lb, tonne/kg, tonne/ton)
 - Zero enable, enable printer only after the weight is returned to zero

- Motion bandwidth (0.5d, 1.0d, 2.0d, 3.0d)
- Division size (0.005 through 50)
- Digital filter (light, medium-light, medium, heavy-medium, heavy)
- Dual Units
- Single range and Dual range Scale Capacity
- Calibration time and date stamp
- Configuration time and date stamp

Display Rate:

From 0.2 to 10 seconds in 0.1 second intervals (.2 seconds minimum)

Zero:

2% or 100% zero capability

Can be completely disabled for tank weighing applications.

Load cell diagnostics are performed when the zero switch is operated.

Calibration:

Keyboard

Enter cell capacity, resistance and sensitivity for each cell in the scale group. The resultant span, assuming a good installation and accurate data, produces an accurate calibration. The final calibration is achieved through front panel trimming using the up/down arrow keys and test weights.

Section Calibration:

Apply a known weight (concentrated) to each section of the scale. Finally apply a calibrated weight to the scale and trim from the instrument keyboard.

Load Cell Calibration:

Apply a known weight to each cell in the scale group in the order prescribed by the instrument display and finally trim to the final value from the instrument keyboard.

TARE:

Can be disabled for gross weight only applications

Keyboard Tare:

Tare data can be entered through either keyboard

Auto Tare:

Tares can be stored by direct weighing

Auto Clear:

Tares can be automatically cleared after printing

Tare Expiration:

Tares are time and date stamped to give a warning when their expiration date has arrived

- 95 stored tares
- 1 to 15 alphanumeric character ID
- Time and date stamped
- Weight data automatically converted to the appropriate weighing units
- Tare data files can be listed to a printer or viewed directly from the instrument

Products:

- 50 products
- 1 to 15 alphanumeric character ID
- Weight accumulator
- Conversion factor (1)
- Number of decimal places for conversion factor (1-4)
- 1 to 15 alphanumeric conversion factor legend
- Product data can be programmed to be entered in an inbound, outbound or Gross Tare Net operation
- Product data files can be listed to a printer or viewed directly from the instrument

Field Names:

Seven (7) field names can be given a 25 alphanumeric name to denote driver name, product grade, site location, etc. Each field name can be programmed to be entered in an inbound/outbound or Gross Tare Net operation.

Incomplete:

900 Incomplete record storage. Transaction records are stored

temporarily as incomplete records. Incomplete data files can be listed to a printer or viewed directly from the instrument.

Transactions:

900 transaction records, each record consists of:

1. In Time (12 hour am/pm format)
2. Time Out (12 hour am/pm format)
3. Outbound Date (month/date/year/format)
4. Gross Weight
5. Tare Weight
6. Net Weight
7. Product ID (15 alphanumeric character ID)
8. Conversion
9. Loop ID (15 alphanumeric character ID)
10. 1st Field Name (15 alphanumeric character ID)
11. Ticket Number
12. Alt Gross
13. Alt Tare
14. Alt Net

Reports:

- Two transaction reports can be field programmed to generate any or all portions of a transaction record, and in a prioritized order
- Numeric data in the transaction record can be filtered against a search field so that data in the record is only selected if it is less than, equal to or greater than the search field.
- Similarly alphanumeric identification fields can be compared to a text search field.
- A wildcard command "*" is used to generate grouped reports
- For example, if a wildcard is used in the product search field all transactions data relating to the first product is generated, then the second etc. for all transactions records.
- Similarly, a grouped Loop ID report can be generated

Computer Interface Specifications:

Continuous:

Weight data is continuously transmitted at each display update cycle

Demand:

Data for the communication channel is transmitted in its formatted

order whenever a demand character is received from a computer (PC) or terminal

Auto:

Formatted data is transmitted following a keyboard print command

Tare & Product File Data:

Tare and product file data can be downloaded or uploaded from a computer . The file data is expected in a quote, comma delimited format and is compatible to spreadsheet and data base file formats

Transaction:

Transaction records can be downloaded to a computer (PC) and are compatible to spreadsheet and data base file formats. Transaction file data can also be cleared by a command from the computer

Calibration & Configuration:

Calibration and configuration data downloaded/uploaded from a computer for long term storage and diagnostics

Modem:

As well as connecting directly through cable to a computer, provision is made to link via modem to a remote 2500 or computer terminal. If using Winlogix software SFW-2500-0, the call must be initiated from the computer terminal. If using Winlogix 2002 the call may be initiated at either end.

Environmental:

- Humidity, 0-100% suitable for washdown
- Ventilation, none required
- Dust, non-conducting, non corrosive
- Power, 100 VAC to 130 VAC or 200 VAC to 260 VAC, 50Hz/60Hz
- Power Consumption, 1 amp maximum at 115 VAC nominal
- Number of Cells, 1-8 maximum, 1QMB needed for each 4 cells
- Scale can be located up to 150 feet from the instrument



Certification:

NTEP CC# 95-044 (April 1995)

UL (May 1995)

CWM

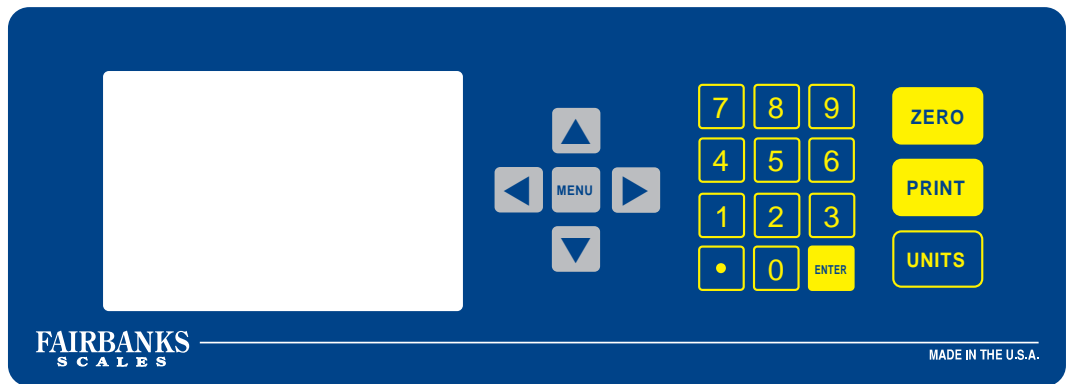
OIML (Pending)

SECTION 2: Functions

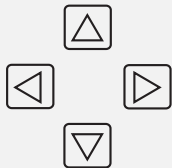
Introduction

The IND-HR2500-QF1 indicator is designed to be used in a wide variety of floor scale, hopper scale, and tank scale applications. The load cells are interfaced with the indicator through the Quad Multiplexer Box, ACC-3000-1. The indicator features Intalogix technology. The indicator may be interfaced with a variety of printers. An RS-232 interface allows for the transfer of data to the indicator from a computer and vice versa.

A. Front Panel



3067



Arrow Keys - When pressed, these keys move the cursor in the display in the direction indicated.



Menu Key - When pressed, this key changes the display to the Operation Menu. This key can also be used to return the display to the last menu screen that was shown.



Zero Key - This key sets the display to the Center-of-Zero.



Print Key - When pressed, a ticket will be printed. If a tare weight is entered a Gross, Tare, Net ticket will be printed. If no tare weight is entered, a Gross Weight ticket will be printed.



Units Key - Changes the units of weight displayed, depending on the selection made in the Calibration Menu.

0 9



0 through 9 Keys - Used to enter numeric data, such as tares and IDs.

Enter Key - Used to enter selections into memory during programming.

The scale can be setup to operate in one of two modes, DATA TERMINAL, commonly called IN/OUT WEIGHING, or WEIGH ONLY, commonly called GROSS, TARE, NET weighing. The operating mode is set in the Service Menu. When the system is powered up, the display for the Operating Mode will be shown.

B. Sealing

The indicator and the QMB's must be sealed before the scale can be put into service. Holes for two lead-wire seals are provided on the latches of the indicator. The sealing wire goes through the latch and the lip on the front cover of the indicator.

To seal the QMB, two lead-wire seals are required. The seals are installed at either end of the box, through the holes provided.

SECTION 3: Password/Security Code

Introduction

The term password and security code are used interchangeably in this program. Two optional passwords may be used to protect access to items shown in the OPERATION MENU:

1. The Configuration Menu password protects the Configuration Menu, Modem Service, and Time and Date.
2. The Service Menu password protects the Service Menu.

The two passwords operate independently, but the same password may be used for both. A key symbol will appear beside each of the Operation Menu items that is password protected.

The following Operation Menu items can NOT be password protected:

Ticket Number
Keyboard Tare
Auto Tare
Audit Trail

A. Use of Password/Security Code

In the Operation Menu, if a key symbol is displayed beside an item, the correct password must be entered to gain access to the item. Remember, two passwords may be necessary to access all of the displayed items, one password for the Configuration Menu, Modem Service Menu, and Time and Date, and another password for the Service Menu. To access an item that is password protect:

1. Place the cursor beside the appropriate item to be accessed and press the ENTER key.
2. The display will show ENTER SECURITY CODE Enter the correct password and press the ENTER key.
- 3a. If the correct password has been entered, the display will show the appropriate menu.
- 3b. If an incorrect password is entered, the display will return to the Operation menu.

NOTES:

- 1. If the Service Menu is accessed through a password, the operator will also have access to the Configuration Menu, Modem Service menu, and the time and date. This access to all items will remain in effect until the display is returned to the Main Weigh screen.**
- 2. An external keyboard must be used if a password is to be deleted.**

B. Password/Security Code Maintenance

Password maintenance includes creating passwords or changing passwords. The first step in password maintenance is accessing the password's maintenance screen.

C. Configuration Menu Password

The Configuration Menu password's maintenance screen is accessed from the Weight display. This procedure is used to enter the initial password or change an existing password. With the weigh screen displayed:

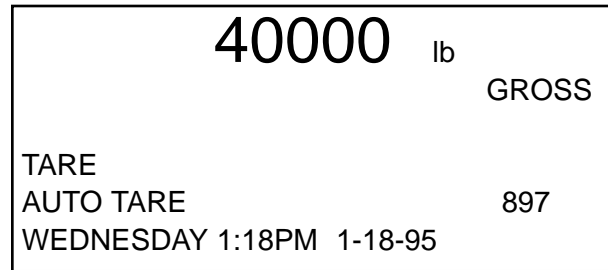
1. Press the “<”, “>” and ENTER keys in sequence using the keypad or press and hold the Ctrl, Alt and Esc keys using the external keyboard.
2. The display will show ENTER SECURITY CODE. Enter the password to be used. If the password is to be deleted, using the external keyboard, press the delete key. The code can be from one to fourteen characters long. Press the ENTER key. If no password has been previously entered, this will become the password. If a password has been entered, this will overwrite the existing password.
3. The display will show, SECURITY CODE ACCEPTED, then will automatically return to the weigh screen.

SECTION 4: Operator Section

The scale can be setup to operate in one of two modes: WEIGH ONLY, commonly called GROSS, TARE, NET weighing and IN/OUT weighing. The operating mode is set in the Service Menu. When the system is powered up, the display for the Operating Mode will be shown.

A. WEIGH ONLY, Main Menu

When the operating mode is set up for WEIGH ONLY mode, the display will show:



1. WEIGH ONLY MODE

- a. **40000 lb GROSS** This display is the weight on the platform and the weigh mode that is active.
- b. **Wednesday 1:18PM** This is the current day and time with the appropriate AM or PM legend. The time is in the hour, minute format.
- c. **1-18-95.** This is the current date in a month, day, and year format.
- d. **897** This number represents the number of transactions that can be stored before the memory buffer begins to over-write itself. The maximum number of stored transactions is 900. If a report is printed before the 900 number is reached, the count will reset to zero. To prevent over-writing records, print a report summary and clear the memory before this number reaches zero.
- e. **TARE** This option is used when a Tare is to be entered through the keyboard or keypad.
- f. **AUTO TARE** This option is used when the weight displayed is used as a Tare weight.

Use the UP or DOWN arrow keys on the keypad to place the arrow next to the option to be selected. Press the ENTER key on the keypad to select the option. Press the MENU key to display the Operation Menu.

B. IN/OUT, Main Menu

When the operating mode is set up for IN/OUT mode, the display will show:

12340 lb ~	
	GROSS
INBOUND	
OUTBOUND	723
SCALE 2	
WEDNESDAY 12:45PM 12-29-96	

1. IN/OUT

a. 12340 lb GROSS

This display is the weight on the platform and the weigh mode that is active.

b. "~" ,

The tilde, represented to the right of the displayed Gross weight, indicates there is motion on the platform.

c. INBOUND - This option is selected to do INBOUND weighing.

d. OUTBOUND - This option is selected to do OUTBOUND weighing.

e. **723** - This number represents the number of transactions that can be stored before the memory buffer begins to over-write itself. The maximum number of stored transactions is 900. If a report is printed before the 900 number is reached, the count will reset to zero. To prevent over-writing records, print a report summary and clear the memory before this number reaches zero.

f. **SCALE 2** - If more than one scale is selected, this legend will appear to show which scale the displayed values are from.

g. Wednesday 12:45PM - This is the current day and time with the appropriate AM or PM legend. The time is in the hour, minute format.

h. 12-29-96 - This is the current date in a month, day, and year format.

Use the UP or DOWN arrow keys on the keypad to place the arrow next to the option to be selected. Press the ENTER key on the keypad to select the option. Press the MENU key to display the Operation Menu.

C. Basic Operations Summary

1. WEIGH ONLY MODE Summary

There are two options available in the WEIGH ONLY MODE, Gross Weighing and Gross-Tare-Net Weighing.

a. Gross Weighing

- 1). Press the ZERO key to zero the scale.
- 2). If the display shows load cell(s) bad, this indicates the weight on the platform has changed from the calibration zero. Check the platform for equipment, debris, or other materials and remove them. Press the ZERO key a second time to return to the WEIGH MODE.
- 3). Place the object to be weighed on the platform. When the display is stable, press the PRINT key and a Gross Weight Ticket will be printed.

2. Gross-Tare-Net Weighing

- a.** Press the ZERO key to zero the scale.
- b.** If the display shows load cell(s) bad, this indicates the weight on the platform has changed from the calibration zero. Check the platform for equipment, debris, or other materials and remove them. Press the ZERO key a second time to return to the WEIGH MODE.
- c.** Place the empty container on the platform.
- d.** Choose TARE or AUTO TARE at the menu.
 - 1). If TARE is selected, enter the known Tare Weight through the keypad.
 - 2). If AUTO TARE is selected. When the display is

stable, press the ENTER key. The weight will be stored as a Tare Weight.

- e. Remove the container from the platform and fill it with the product to be weighed.
- f. Place the filled container back onto the platform.

The display will show:

			lb
	XXXXXX	GROSS	
	YYYYYY	TARE	
	ZZZZZ	NET	
TARE			
AUTO TARE			897
WEDNESDAY	1:18PM	1-18-95	

- g. Press the PRINT key and a Gross-Tare-Net Ticket will be printed. The Gross weight is the Tare weight plus the product weight. The Net weight is the product weight, only. The Tare weight is the value entered in Step d.

NOTE: If prompted, key in data for field names or product ID, then press ENTER. This is additional data for tickets or reports.

3. Mode Change

When a TARE or AUTO TARE is entered, the scale automatically switches from the Gross Only Mode to the Gross-Tare-Net Mode. To change the scale from the Gross-Tare-Net Mode back to the Gross Only Mode, enter a 0 Tare.

4. IN/OUT Weighing Mode Summary

IN/OUT weighing consists of weighing a container, inbound, either full or empty, then weighing the same container outbound, full or empty, and printing a ticket with the two weights shown. The two weights for the same container, an inbound weighment with a stored tare, or an outbound weighment with a stored tare, is called a complete transaction. An inbound weighment with NO outbound weighment is an incomplete transaction.

D. In/Out Weighing

1. Basic In/Out Weighing

Basic IN/OUT weighing consists of two weighments of a container, the first weighment called INBOUND and the second weighment called OUTBOUND. The two weighments make a complete transaction.

- a. With the indicator powered up, press the ZERO key.
- b. Place the container to be weighed on the platform. This will be the first weighment.
- c. Use the UP or DOWN arrow key to place the cursor beside INBOUND and press the ENTER key.
- d. The display will prompt the operator for a LOOP ID. This is the identification number that will be used to identify the complete transaction. Enter the ID number to be used through the keypad and press the ENTER key. The ID number should be marked on the container so that it can be used again on the outbound weighment.
- e. If prompted, key in data for field names and or Product ID, then press ENTER.
- f. An INBOUND ticket will be printed. The data for this partial transaction will be stored in the indicator with the LOOP ID number as the transaction recall label.
- g. Remove the container from the platform. Material can be added or removed from the container.

To complete the transaction:

- h. Move the container back onto the platform. Use the UP or DOWN arrows to place the cursor beside OUTBOUND and press the ENTER key.
- i. The display will prompt the operator for the LOOP ID that was entered for this transaction on the inbound weighment. Enter the same ID through the keypad and press the ENTER key.
- j. The indicator will retrieve the inbound data from memory and combine it with the new outbound data and a INBOUND/OUTBOUND ticket will be printed. The data will then be stored as a complete transaction.

SECTION 5: Programming

A. General Programming Instructions:

The programming menus that contain all of the parameters for the system are listed as follows:

Operation Menu - Accessible without a password by pressing the MENU key. This menu is used for general weighing operations and accessing further programming menus.

Configuration Menu - May be protected with a password. This menu is used to set up the parameters for the Field Names, products, IDs, Titles, display contrast, audible alarms, and outputs.

Service Menu - May be protected with a password. This menu is used to set up the technical parameters of the system, such as scale capacity, span, and load cell data.

Modem Service Menu - Will be protected with the same password as the Configuration Menu. This menu is used to program and operate the modem service feature.

1. It is recommended that a keyboard be part of the system so that data may be entered in both alpha and numeric formats.
2. The following instructions apply to all of the menus.
 - a. In all menus, the UP or DOWN arrows move the cursor in the indicated direction.
 - b. To make an entry, place the cursor beside the item to be selected and press the ENTER key. Either the operator will be prompted for the data to be entered or press ENTER to scroll through displayed choices.
 - c. A "key" symbol beside a menu item means the item is "locked" and can only be accessed with a password.
 - d. Data may be entered through the keypad.
 - e. When the appropriate data has been entered, press the ENTER key to record the data into memory.

B. Operation Menu

The items in the OPERATION MENU may be set or re-set at any time through the keypad, except those items that are "locked" by a password.

OPERATION MENU
MENU
TIME and DATE
TICKET NUMBER
KEYBOARD TARE
AUTOTARE
AUDIT TRAIL
MODEM SERVICE
CONFIGURATION MENU
SERVICE MENU

1. Time And Date

Enter the TIME in the format hh:mm.

Select "AM" or "PM" to go with the time entered.

Enter the Date in the format mm:dd:yy.

Select the correct format for time, date and year.

Ticket Number:

Enter the number to appear on the next ticket to be printed out.

NOTE: The KEYBOARD TARE and AUTOTARE operate the same in both the OPERATION and CONFIGURATION MENUS. Data can be entered from either one

Keyboard Tare

Enter the LOOP ID and then the TARE WEIGHT for the container.

Once an entry is made, it cannot be changed by the operator in the Operation Menu. Changes can be made through the Configuration Menu.

Autotare

Enter the TARE ID and the TARE WEIGHT will be entered automatically when the container is placed on the scale. Once an entry is made, it cannot be changed by the operator in the Operation Menu. Changes can be made through the Configuration Menu.

NOTE: Stored data can only be retrieved in data terminal (Inbound/Outbound) mode.

Audit Trail

To select, press the ENTER key. The Audit Trail will be displayed.

Modem Service

To select, press the ENTER key. If locked, enter the CONFIGURATION PASSWORD to enter Modem Service.

Configuration Menu

To select, press the ENTER key. If locked, enter the CONFIGURATION PASSWORD to enter the Configuration Menu.

C. Modem Service

This selection is used to operate the Modem Service link. This option requires that Modem Accessory ACC-2020 and cable accessory ACC-1267 be installed. See 50160/SJ4642 for more information on the Modem Operation. When this option is selected, the display will show:

```
MODEM CONTROL PANEL
OPERATION MENU
INITIALIZE MODEM
BAUD SELECT (COM 2)
TELEPHONE TONE
DIAL
REDIAL
HANGUP
COM PORT ENABLED   NO
MODEM COMMAND
CARRIER OFF
```

- 1. OPERATION MENU** - This selection returns the display to the OPERATION Menu.
- 2. INITIALIZE MODEM** - This selection sets the transmission parameters for COM 2 to the default settings. These settings will match the parameters of the receiving modem.
- 3. BAUD SELECT** - This selection will display the parameters selected for COM2 Port. For example:

COM PORT 2			
9600	NONE	8	
BAUD	PARITY	DATA	STOP
19200	NONE	7	1
9600	ODD	8	2
4800	EVEN		
2400	MARK		
1200	SPACE		
600			
300			

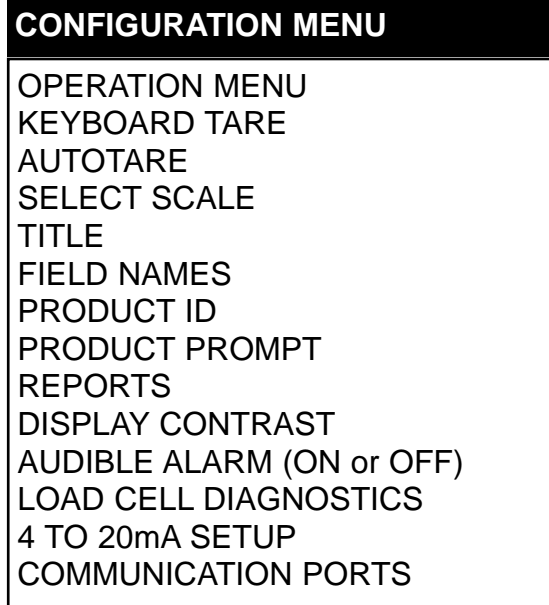
DO NOT CHANGE THESE SETTINGS. These are the settings needed to operate Accessory ACC-2020. If another modem is used, consult the modem manual for the proper settings.

4. **TELEPHONE** - This selection is used to choose the type of phone system, TONE or PULSE.
5. **DIAL** - This selection is used to enter the phone number to be dialed. When ENTER is pressed, the displayed number will be dialed.
6. **REDIAL** - This selection redials the number entered in Step 5, DIAL.
7. **HANGUP** - This selection is used to break the telephone connection.
8. **COM PORT ENABLED - YES or NO** - Enables or disables Com Port 2 as the modem output port. If disabled, Com Port 2 can be used for another function.
9. **MODEM COMMAND** - When the transmission begins, this line will change to reverse display and a series of messages about what is being transmitted will appear.
10. **CARRIER OFF** - When the telephone connection is complete, this display will change to CARRIER ON. This message will be displayed until the connection is broken.

D. Configuration Menu

To enter the CONFIGURATION MENU, place the cursor beside the legend and press the ENTER key. The operator will be prompted for a PASSWORD if one has been installed. Enter the password and press the ENTER key.

The display will show:



OPERATION MENU - Select this option to return to the OPERATION MENU.

KEYBOARD TARE - Enter the LOOP ID and then the TARE WEIGHT to be used with the entered LOOP ID.

AUTOTARE - Place the container on the scale and press the ENTER key. Enter the LOOP ID.

SELECT SCALE - If there are two platforms connected to the indicator, this selects the platform that will be used as the "INBOUND SCALE" and the "OUTBOUND SCALE". A third option can be used, "SELECT SCALE YES or NO". "YES" allows the operator to select the scale to be used while in the Main Menu.

TITLE - This selection is used to enter information, such as customer name and address. There are 5 lines available with 31 characters per line.

FIELD NAME- This selection is used to describe the information to be put into a field. 15 characters per line, with 7 available lines, and prompt for each line. The prompts are "GTN", "IN", "and "OUT". Each prompt can be toggled ON or OFF. Only Field Name #1 is stored and available for reporting.

PRODUCT ID - Enter the code that will identify the product, letters or digits, up to 15 characters.

PRODUCT PROMPT - Enables or disables product prompts when GTN, Inbound or Outbound transactions are performed.

REPORTS - Select to print, review, and delete reports. See below, REPORTS.

DISPLAY CONTRAST - Select to change the contrast between the displayed letter and the background. Use the UP and DOWN arrows to make the change.

AUDIBLE ALARM - With the alarm ON, the indicator will "BEEP" when a key is pressed on the keypad. Press the ENTER key to toggle the alarm ON or OFF.

LOAD CELL DIAGNOSTICS - Displays a condition, "GOOD" or "BAD" for each load cell in the system.

4-20 mA SETUP - Used to configure the 4 to 20 mA output. See below for more information.

NOTE This feature will only operate if accessory ACC-2005-1 has been installed.

COMMUNICATIONS PORT - Used to configure communications ports 2,3,4, and 5.Only COM ports 2 and 3 are available for use. See below for more information.

REPORTS - The REPORTS MENU is used when reports are to be printed or viewed. Only numeric data can be entered through the keypad. Select REPORTS from the CONFIGURATION MENU.

The display will show:

REPORTS
CONFIGURATION MENU
REPORT GENERATOR 1
TRANSACTION REPORT 1
REPORT GENERATOR 2
TRANSACTION REPORT 2
DELETE TRANSACTIONS
TARE REPORT
VIEW TARES
DELETE TARES
INCOMPLETE REPORT
VIEW INCOMPLETE
DELETE INCOMPLETE
VIEW PRODUCT
DELETE PRODUCT

CONFIGURATION MENU - This option will return the display to the CONFIGURATION MENU.

A report with fields has been included in the program. The report format can be customized by assigning priorities to the various fields. Two different reports can be stored and printed. The fields that can be prioritized are IN TIME, TIME OUT, DATE, INBOUND WEIGHT, OUTBOUND WEIGHT, NET WEIGHT, PRODUCT ID, CONVERSION, LOOP ID, FIELD NAME 1, TICKET NUMBER, ALT GROSS, ALT TARE, ALT NET.

The Priority Feature and the Search Field feature are explained in detail in the section, FEATURES.

REPORT GENERATOR 1 -

When this option is selected, the display will show:

IN TIME
REPORT PRIORITY
1
>
PAGE WIDTH = 122 17 CPI

NOTE: When in the REPORT GENERATOR option, pressing the END key on the keyboard will return the display to the Configuration Menu. With the keypad, the operator will need to scroll through all of the REPORT GENERATOR steps to return to the Configuration Menu.

This display shows the "IN TIME" as the field being considered. The "1" indicates this will be the first field printed on the report. To change the priority, enter another number at the cursor. If a "0" is entered, the field will not be printed. When the ENTER key is pressed, the display will move to the next field. Do each field in the same way. The page width, 122 (characters), and the 17 CPI (characters per inch) are automatically set when the report fields are prioritized. To prevent "Wrap-A-Round" in the printed report, the printer must be able to accept the page width and CPI parameters.

TRANSACTION REPORT 1 - When this option is selected, the printer will print a copy of report format 1.

REPORT GENERATOR 2 - This allows a second report format to be stored in memory. Priorities are assigned the same way as in Report Generator 1.

TRANSACTION GENERATOR 2 - The option prints a report using the REPORT 2 format.

DELETE TRANSACTIONS - Select this option to delete all transaction files. This is usually done after a report has been printed.

TARE REPORT - This option prints a report listing all of the loop ID's and the tare weights stored in memory.

VIEW TARES - This selection allows the operator to view individual tares being held in memory. The display shows the tare ID, the tare weight, and the time and date the tare weight was entered. Individual tares may be deleted using this option. This option is used to delete individual files or all tare files.

DELETE TARES - Select this option to delete the tares that are stored in memory.

INCOMPLETE REPORT - This option prints a report showing all of the incomplete transactions stored in memory. An incomplete transaction is one with an INBOUND weight and no OUTBOUND weight.

VIEW INCOMPLETE - This selection allows the operator to view each individual incomplete transaction. The display will show the tare ID, the inbound weight, the product ID and the time and date. Individual incomplete transactions may be deleted with this option. This option is used to delete individual files or all incomplete transaction files.

DELETE INCOMPLETE - Select this option to delete all of the incomplete files that are stored in memory.

VIEW PRODUCT - This selection is used to view each product that is held in memory. This display will show the product ID, the total weigh of the product shipped, the conversion factor and a description of the product. Individual products may be deleted with this option. This option is used to delete individual files or all product files.

DELETE PRODUCT - Select this option to delete product files stored in memory.

NOTE:
This feature can only be used if accessory ACC-2005-1 has been installed.

4 TO 20 mA SETUP

This menu is used to set the output parameters for the 4 to 20 mA circuits. When this is selected from the CONFIGURATION MENU, the display will show:

4 TO 20mA OUTPUT	
CONFIGURATION MENU	
MAXIMUM WEIGHT	XXXX
ADJUST SPAN 20mA	XX.X%
MINIMUM WEIGHT	XXXX
ADJUST ZERO 4mA	XX.X%
MODE (GROSS/NET)	GROSS
SELECT SCALE	1

To configure the 4/20 mA Output, connect a millimeter to PINS 1 and 2 on the 4/20 analog output board. The pins are located on the TB1 connector. Pin 1 is "+" and Pin 2 is "-".

CONFIGURATION MENU - This selection returns the display to the CONFIGURATION MENU.

MAXIMUM WEIGHT - Enter the weight at which the 4 to 20 mA output will be at 20 mA.

ADJUST SPAN 20 mA - With the millimeter connected to pins 1 and 2, and the cursor beside this option, press the ENTER key. While watching the meter, press either the UP or the DOWN arrow, until the meter reads 20mA.

MINIMUM WEIGHT - Enter the weight at which the 4 to 20 mA output will be at 4 mA.

ADJUST ZERO 4mA - With the millimeter connected to pins 1 and 2, and the cursor beside this option, press the ENTER key. While watching the meter, press either the UP or the DOWN arrow, until the meter reads 4mA.

MODE (GROSS/NET) - Enter the mode, GROSS or NET, that the 4 to 20 mA output will track.

SELECT SCALE - If more than one scale is enabled, this will select the scale ID for the 4-20 mA output to track.

COMMUNICATION PORTS

This selection is used to configure communication ports 2 and 3.

When this option is selected, the display will show:

COM PORT 2

CONFIGURATION MENU
COM PORT
LOOP BACK TEST
DEVICES
DEFAULT FORMAT
INBOUND FORMAT
OUTBOUND FORMAT
GROSS*TARE*NET FORMAT
BAUD SELECTION
INVERSE PRINT
ENLARGED CHARACTERS
FORM SIZE
REMOTE DISPLAY

COM PORT 2 - This displays the communications port that is being configured.

CONFIGURATION MENU - When this item is selected, the display returns to the CONFIGURATION MENU.

COM PORT - This is used to select the communications port to be configured, 2, 3, 4 or 5. Only COM2 and COM3 are valid choices, unless accessory ACC-2005-1 has been installed.

LOOPBACK TEST - When this item is selected, the indicator will perform an internal loop back on the selected ComPort. It will then prompt for a communications test between any two Com Ports.

DEVICES - This selection is used to turn the communications port, designated in Step 3, OFF or to select the device to be used, such as a printer or computer. See below.

DEFAULT FORMAT - This selection sets the default print parameters and baud selection for the device selected.

INBOUND FORMAT - This selection is used to customize the locations of the printed information on the inbound part of the ticket or form.

OUTBOUND FORMAT - This selection is used to customize the locations of the printed information on the outbound part of the ticket or form.

GROSS*TARE*NET FORMAT - This selection is used to customize the locations of the printed information on the Gross, Tare, Net ticket or form.

BAUD SELECTION - This selection is used to set the baud rate, parity, data bits, and stops for the selected communications port.

INVERSE PRINT - This selection allows for the selection of inverted print for the INBOUND, OUTBOUND, or GTN part of the ticket or form.

ENLARGED CHARACTERS - This selection allows for the selection of large print for the INBOUND, OUTBOUND, or GTN part of the ticket or form.

FORM SIZE - This selection will prompt the operator to enter the length, in inches, of the ticket that will be printed on an IN-BOUND or OUT-BOUND weighment.

REMOTE DISPLAY - This selection allows the enabling of a remote display and the selection of what will be displayed. See below.

NOTE:

- 1.) In the service program, update rates of less than 0.4 seconds will cause erroneous remote display (lampbank) performance.**
- 2.) The PRINT and ZERO keys on the ACC1415 remote display will not operate when interfaced to the QF1.**

Devices

When Devices is selected from the Communications Port Menu, the screen will show:

```
COM PORT 2 OFF
COMMUNICATIONS MENU
COM PORT 2 OFF
CTS RTS CONTROL      NO
TICKET PRINTER 50-3925
TICKET PRINTER 50-3960
TICKET PRINTER 50-3950
TICKET PRINTER SP-2000
TICKET PRINTER PTR 610
TICKET PRINTER SP 2200
TAPE PRINTER 50-3715
FORM PRINTER 50-3921
FORM PRINTER OKI 320/520
CUSTOM DRIVER
COMPUTER (PC)
```

1. To select the device, place the cursor beside the appropriate choice and press the ENTER key. If "COM PORT 2 OFF" is selected, the communications port will be turned OFF. Any other choice will automatically turn the port ON.
2. If "CTS RTS CONTROL" is selected, pressing the ENTER key will toggle the selection between YES and NO.
3. If a printer is to be selected, place the cursor beside the appropriate choice and press the ENTER key. Configuration for the selected printer will be automatic and the printer legend will appear at the top of the menu.

4. If CUSTOM DRIVER is selected is selected, the screen will show:
(Refer to Appendix V)

Enter in the appropriate ASCII print driver codes for the printer being installed, consult the printer manual for the codes.

```
CUSTOM DRIVER
→MENU
TICKET INITIALIZATION

CHARACTER SIZE
DOUBLE WIDTH
LINE FEED
FORM FEED
REPORT INITIALIZATION
```


If COMPUTER (PC) is selected the screen will show:

COMPUTER OUTPUT	
→< SETUP MENU>	
CONTINUOUS	
DEMAND	
AUTO	
CHECKSUM	OFF(ON)
POLL CHARACTER	Cr
START MESSAGE	
BLOCK SEPARATOR	CrLf
END OF MESSAGE	EOT

Selecting Computer Demand will enable the indicator to receive either a remote Print command or a remote Zero command from the computer. If the indicator receives a P from the computer it will initiate a print cycle. Likewise a Z will perform a zero function.

Remote Display

If REMOTE DISPLAY is selected, the display will show:

REMOTE DISPLAY OFF	
COMMUNICATION MENU	
→ REMOTE DISPLAY OFF	
CONTINUOUS GROSS WEIGHT	
GROSS ON PRINT	
TIME OUTPUT	OFF(ON)
RF LINK on COM 3	

1. If "REMOTE DISPLAY OFF" is selected, connector P3 on the mother board will be disabled. Any other selection will automatically enable connector P3.
2. If ON is selected for "TIME OUTPUT", the Remote Display will show the current time when there is no activity on the platform. If OFF is selected, the time will not be displayed.
3. RF LINK on COM 3 will divert the continuous remote display output to the RS232 port 3. This will allow the connection of RF modems to transmit the signal to a remote display at a great distance. Use pins 3 (TX) and 5 (GND) for the connections.

SECTION 6: Features

Introduction

Several features are available in the Intalogix Technology. This section explains these features in detail.

A. Report Field Priority

When a transaction record is created, there are fourteen data fields created within the record. These data fields are used when reports are printed. The operator can select which data fields will appear in the report and the order in which they will be printed. This is done by assigning PRIORITIES to the fields. The priority is the number of the column in which the data will appear in the report.

The 14 data fields created are as follows:

IN/OUT

1. IN TIME
2. TIME OUT
3. DATE
4. INBOUND WEIGHT
5. OUTBOUND WEIGHT
6. NET WEIGHT
7. PRODUCT ID
8. CONVERSION
9. LOOP ID
10. FIELD NAME 1
11. TICKET #
12. ALT GROSS
13. ALT TARE
14. ALT NET

WEIGHT ONLY

1. IN TIME
2. TIME OUT
3. DATE
4. GROSS WEIGHT
5. TARE WEIGHT
6. NET WEIGHT
7. PRODUCT ID
8. CONVERSION
9. LOOP ID
10. FIELD NAME 1
11. TICKET #
12. ALT GROSS
13. ALT TARE
14. ALT NET

To format the report and assign field priorities:

1. From the CONFIGURATION MENU, select REPORTS.
2. From the REPORT MENU, select REPORT GENERATOR 1.

The display will show:

```
REPORT PRIORITY
1
>
PAGE WIDTH = 122 17 CPI
```

The "1" is the column number that has been assigned to the data in the IN TIME field. The page width will vary from 0 to 131, depending on the number of fields that have been selected to be printed in the report. This number can not be changed manually, but will change automatically as the number of prioritized field changes. The CPI (characters per inch) number will also change automatically as the number of prioritized fields is changed.

3. At the cursor, enter the number of the column where this item is to appear in the report. If a "1" is entered, this will be printed in the first column of the report. If a "0" is entered as the column number, the data in this field WILL NOT BE PRINTED in the report.

4. Press the ENTER key and the choice will be assigned to the field and the display will advance to the next field. Repeat this process for each of the field that can be placed in the report.

Conditions:

1. If a field has a priority of "0", it will not be printed in the report.

2. If two fields are assigned the same priority, the one that occurs first in the field list will be printed first in the report.

3. If fields 3 through 11 are assigned a priority other than "0", the operator will be asked if the field is to be used as a SEARCH FIELD. The SEARCH FIELD feature is explained in the following section.

B. Search Field Feature

The transactions records stored in memory can be sorted and then printed in reports by using the "search field" feature. When a search field is entered the Report Generator will search the transaction records, for an exact match of the field specified. Only those transactions will be printed. An asterisk (*) maybe used as a wild card to group transactions by matching fields.

TRICKS

Several keys have unique functions when used in the search field feature.

Date Format Feature -

The date format must be in the form "mm dd yy " or "mm-dd-yy". The first digit of the month or day can be a "0" or a space. In all cases, each entry must be two digits separated by a space or a dash.

USING THE SEARCH FIELD FEATURE

1. Select the "Report Generator 1" option at the REPORT menu.

The display will show:

REMOTE DISPLAY OFF
REPORT PRIORITY
1
>
PAGE WIDTH = 122 17 CPI

2. Advance the display to the DATE field. This is the first field that can be used as a search field. All of the remaining fields can be used as search fields.

NOTE: If the report priority is "0", it CAN NOT be used as a search field. If the priority is other than "0", it can be used as the search field.

3. With a report priority other than "0" selected, press the ENTER key.

The display will show:

This display is asking the operator if this field is to be used as the search field.

```
REMOTE DISPLAY OFF
REPORT PRIORITY
1
SEARCH FIELD
>
PAGE WIDTH = 122  17 CPI
```

Conditions

1. If two or more fields are assigned, the records are sorted by the first field and then by the second. Only those records that fit all of the search fields selected will be printed in the report.
2. Different search fields can be assigned for REPORT GENERATOR 1 and REPORT GENERATOR 2. Otherwise, the two report generators work the same way.
3. At the end of each report generated from a search field, the "totals" for all of the listed transactions will be printed. For example, if the search field selected is "OUTBOUND WEIGHT" , the total outbound weight for all entered transactions will be printed at the end of the report.
4. IN TIME and TIME OUT can not be used as search fields.
5. When a new search field is selected, all existing search fields should be deleted. Deleting search fields is done by placing the cursor beside the search field and repeatedly pressing the right arrow on the keypad.

SECTION 7: Diagnostics

A. Loadcell failure:

One of the following messages may appear in the display:

**LOADCELL
FAILURE (S)**

This message is 'triggered' by one of several conditions. If this should appear, call your service support center.

When the ZERO key is pressed, the following message may appear:

LOADCELL (S) BAD

**CHECK THAT SCALE IS EMPTY
IS SCALE EMPTY
CALL FOR SERVICE**

**OPERATE THE ZERO KEY
TO CONTINUE**

B. High water in scale X:

X = Scale Number

This message indicates water is in Scale X pit. The pit needs to be cleaned out.

C. Please wait, communicating with computer:

This message will appear on the main weigh screen if the indicator is being accessed via a remote computer to upload a transaction file or a configuration file, etc. This does not indicate any sort of error. This message will remain until the upload of data is complete. The indicator will then return to the normal weighing mode.

APPENDIX I: A TYPICAL PROGRAM PRINT-OUT

CALIBRATION and CONFIGURATION RECORD

8:28AM

4-12-95

CELL	SPAN ZERO	CELL ZERO	CELL OUTPUT	CELL WEIGHT	SPAN FACTOR	SENSITIVITY mV/VOLT uV/d	
1	8601	8600	89662	25000	0.30875	2.00000	15.0
2	8569	8571	89504	24980	0.30875	2.00000	15.0
3	8575	8576	89486	24980	0.30875	2.00000	15.0
4	8613	8615	89505	24980	0.30875	2.00000	15.0
5	8762	8763	89702	24980	0.30875	2.00000	15.0
6	8751	8753	89695	25000	0.30875	2.00000	15.0
7	8747	8748	89687	24980	0.30875	2.00000	15.0
8	8740	8742	89701	25000	0.30875	2.00000	15.0

SCALE 1

Calibration counter	1		
Calibration time	2:11PM		
Calibration date	4-11-95		
Configuration counter	4		
Configuration time	8:26AM		
Configuration date	4-12-95		
Dual Range Capacity	100000		
Scale Capacity	200000		
Division Size (d)	20		
Units	lb/kg		
Motion Band	3.0 d		
Auto Zero Band	3.0 d		
FIRST CELL	1		
LAST CELL	4		
Cell Capacity	2500		
Cell Resistance Ohms	350		
4 to 20 mA Output			
High Weight	20000	High Count	3626
Low Weight	00	Low Count	740

<u>INBOUND TICKET</u>	<u>COM2</u>	<u>COM3</u>
GROSS	0.0,, 0.0	0.0,, 0.0
TARE	0.0,, 0.0	0.0,, 0.0
NET	0.0,, 0.0	0.0,, 0.0
AUXILIARY TARE	0.0,, 0.0	0.0,, 0.0
AUXILIARY NET	0.0,, 0.0	0.0,, 0.0
INBOUND WEIGHT	0.2,, 0.0	0.0,, 0.0
TARE ID	0.1,, 0.0	0.0,, 0.0
TIME	0.0,, 0.8	0.0,, 0.0
DATE	0.0,, 2.0	0.0,, 0.0
TIME IN	0.0,, 0.0	0.0,, 0.0
TICKET NUMBER	0.0,, 0.0	0.0,, 0.0
PRODUCT ID	0.0,, 0.0	0.0,, 0.0
PRODUCT TOTAL	0.0,, 0.0	0.0,, 0.0
CONVERSION 1	0.0,, 0.0	0.0,, 0.0
CONV. TOTAL 1	0.0,, 0.0	0.0,, 0.0
CONVERSION 2	0.0,, 0.0	0.0,, 0.0
CONV. TOTAL 2	0.0,, 0.0	0.0,, 0.0
SCALE ID	0.0,, 0.0	0.0,, 0.0
TITLE LINE 1	0.0,, 0.0	0.0,, 0.0
TITLE LINE 2	0.0,, 0.0	0.0,, 0.0
TITLE LINE 3	0.0,, 0.0	0.0,, 0.0
TITLE LINE 4	0.0,, 0.0	0.0,, 0.0
TITLE LINE 5	0.0,, 0.0	0.0,, 0.0
FIELD NAME 1	0.0,, 0.0	0.0,, 0.0
FIELD NAME 2	0.0,, 0.0	0.0,, 0.0
FIELD NAME 3	0.0,, 0.0	0.0,, 0.0
FIELD NAME 4	0.0,, 0.0	0.0,, 0.0
FIELD NAME 5	0.0,, 0.0	0.0,, 0.0
FIELD NAME 6	0.0,, 0.0	0.0,, 0.0
FIELD NAME 7	0.0,, 0.0	0.0,, 0.0

<u>OUTBOUND TICKET</u>	<u>COM2</u>	<u>COM3</u>
GROSS	0.4,, 0.0	0.0,, 0.0
TARE	0.5,, 0.0	0.0,, 0.0
NET	0.6,, 0.0	0.0,, 0.0
AUXILIARY TARE	0.0,, 0.0	0.0,, 0.0
AUXILIARY NET	0.0,, 0.0	0.0,, 0.0
INBOUND WEIGHT	0.0,, 0.0	0.0,, 0.0
TARE ID	0.3,, 0.0	0.0,, 0.0
TIME	0.0,, 0.8	0.0,, 0.0
DATE	0.0,, 2.0	0.0,, 0.0
TIME IN	0.1,, 0.0	0.0,, 0.0
TICKET NUMBER	0.2,, 0.0	0.0,, 0.0
PRODUCT ID	0.0,, 0.0	0.0,, 0.0
PRODUCT TOTAL	0.0,, 0.0	0.0,, 0.0
CONVERSION 1	0.0,, 0.0	0.0,, 0.0
CONV. TOTAL 1	0.0,, 0.0	0.0,, 0.0
CONVERSION 2	0.0,, 0.0	0.0,, 0.0
CONV. TOTAL 2	0.0,, 0.0	0.0,, 0.0
SCALE ID	0.0,, 0.0	0.0,, 0.0
TITLE LINE 1	0.0,, 0.0	0.0,, 0.0
TITLE LINE 2	0.0,, 0.0	0.0,, 0.0
TITLE LINE 3	0.0,, 0.0	0.0,, 0.0
TITLE LINE 4	0.0,, 0.0	0.0,, 0.0
TITLE LINE 5	0.0,, 0.0	0.0,, 0.0
FIELD NAME 1	0.0,, 0.0	0.0,, 0.0
FIELD NAME 2	0.0,, 0.0	0.0,, 0.0
FIELD NAME 3	0.0,, 0.0	0.0,, 0.0
FIELD NAME 4	0.0,, 0.0	0.0,, 0.0
FIELD NAME 5	0.0,, 0.0	0.0,, 0.0
FIELD NAME 6	0.0,, 0.0	0.0,, 0.0
FIELD NAME 7	0.0,, 0.0	0.0,, 0.0
MAIL ID	0.0,, 0.0	0.0,, 0.0
MAIL LINE 1	0.0,, 0.0	0.0,, 0.0
MAIL LINE 2	0.0,, 0.0	0.0,, 0.0
MAIL LINE 3	0.0,, 0.0	0.0,, 0.0
MAIL LINE 4	0.0,, 0.0	0.0,, 0.0
MAIL TOTAL	0.0,, 0.0	0.0,, 0.0

<u>GROSS*TARE*NET</u>	<u>COM2</u>	<u>COM3</u>
GROSS	0.2,, 0.0	0.0,, 0.0
TARE	0.3,, 0.0	0.0,, 0.0
NET	0.4,, 0.0	0.0,, 0.0
AUXILIARY TARE	0.0,, 0.0	0.0,, 0.0
AUXILIARY NET	0.0,, 0.0	0.0,, 0.0
TIME	0.0,, 0.1	0.0,, 0.0
DATE	0.0,, 2.0	0.0,, 0.0
TICKET NUMBER	0.1,, 0.0	0.0,, 0.0
PRODUCT ID	0.0,, 0.0	0.0,, 0.0
PRODUCT TOTAL	0.0,, 0.0	0.0,, 0.0
CONVERSION 1	0.0,, 0.0	0.0,, 0.0
CONV. TOTAL 1	0.0,, 0.0	0.0,, 0.0
CONVERSION 2	0.0,, 0.0	0.0,, 0.0
CONV. TOTAL 2	0.0,, 0.0	0.0,, 0.0
SCALE ID	0.0,, 0.0	0.0,, 0.0
TITLE LINE 1	0.0,, 0.0	0.0,, 0.0
TITLE LINE 2	0.0,, 0.0	0.0,, 0.0
TITLE LINE 3	0.0,, 0.0	0.0,, 0.0
TITLE LINE 4	0.0,, 0.0	0.0,, 0.0
TITLE LINE 5	0.0,, 0.0	0.0,, 0.0
FIELD NAME 1	0.0,, 0.0	0.0,, 0.0
FIELD NAME 2	0.0,, 0.0	0.0,, 0.0
FIELD NAME 3	0.0,, 0.0	0.0,, 0.0
FIELD NAME 4	0.0,, 0.0	0.0,, 0.0
FIELD NAME 5	0.0,, 0.0	0.0,, 0.0
FIELD NAME 6	0.0,, 0.0	0.0,, 0.0
FIELD NAME 7	0.0,, 0.0	0.0,, 0.0
MAIL ID	0.0,, 0.0	0.0,, 0.0
MAIL LINE 1	0.0,, 0.0	0.0,, 0.0
MAIL LINE 2	0.0,, 0.0	0.0,, 0.0
MAIL LINE 3	0.0,, 0.0	0.0,, 0.0
MAIL LINE 4	0.0,, 0.0	0.0,, 0.0
MAIL TOTAL	0.0,, 0.0	0.0,, 0.0

APPENDIX II: INTERFACE TO PRINTERS & REMOTE DISPLAYS

A. Interface Section: Printers

Use the following chart to select the proper cable to connect the printer to the indicator.

<u>Printer</u>	<u>IND-HR2500-QF1</u>
50-3925	16084
50-3960	16157
50-3950	16084
SP 2000	16157
PTR 610	16084
SP 2200	16157
50-3715	12654
50-3921	16157
OKI 320/520	16157

B. Interface Section: Remote Displays

NOTE: When connecting a remote display to a IND-HR2500-Q1, use DIS.

1. Fairbanks Model 1405 Remote Display

Order Accessory Kit #1266 Connector Kit. Part number 15585

Use Belden 9842 cable or equivalent.

Wire the cable as follows:

DIS	
IND-R2500,DB9 Connector	1405 Terminal
Tx+ Pin 1	2
Tx-Pin2	1

At the remote display terminal connect black to terminal 2 and connect red to terminal 1. Depending on the weight display required refer to 1405 Manual to set S1 switches.

2. Fairbanks Model 1415 Remote Display

Order Accessory Kit # 1266 Connector Kit. Part Number 15585.

Wire the cable as follows:

DIS	
IND-R2500,DB9 Connector	1415 Terminal
Tx+ Pin 1	3
Tx-Pin2	2
NC	shield

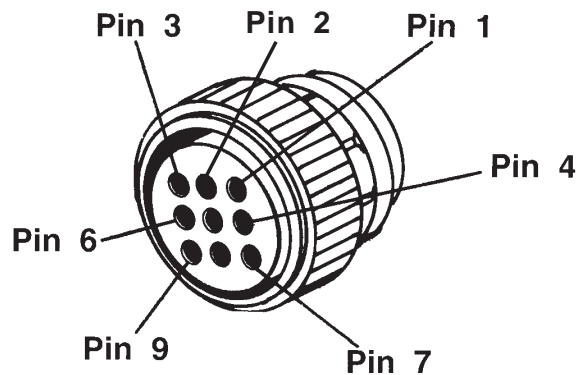
3. Fairbanks RMT-1401, 1404, 1406, 1401A, 1404A and 1406A

Wire the cable as follows:

DIS	
IND-R2500,DB9 Connector	Display Terminal
Tx+ Pin 1	(+15VDC) Pin 1
Tx-Pin2	(C Loop) Pin 5
	(C Loop) Pin 6
	(GND) Pin 2

┌
└ jumper

APPENDIX III: COM PORTS PIN OUT, HR2500-QF1



9-Pin Connector

2433

P3 on the Mother Board	COM 2	COM 3
Pin 1 - (+)TX	Pin 1 - DCD (INPUT)	Pin 1 - NC,
Pin 2 - (-)TX	Pin 2 - DSR (INPUT)	Pin 2 - NC
Pin 3 - GND	Pin 3 - DTR (OUTPUT)	Pin 3 - GND
Pin 4 - NC	Pin 4 - TX (OUTPUT)	Pin 4 - TX (OUTPUT)
Pin 5 - NC	Pin 5 - RX (INPUT)	Pin 5 - RX (INPUT)
Pin 6 - NC	Pin 6 - RTS (OUTPUT)	Pin 6 - RTS (OUTPUT)
Pin 7 - NC	Pin 7 - CTS (INPUT)	Pin 7 - CTS (INPUT)
Pin 8 - NC	Pin 8 - FRAME/GND	Pin 8 - FRAME/GND
Pin 9 - NC	Pin 9 - RI (INPUT)	Pin 9 - NC

Printer Cable Pin Out

All COM Ports	SP2000 / SP2200		
	50-3710 / 3715/3550	50-3925/610	50-3921 / 3960 / 3921
Pin 5			Pin 2
Pin 4	Pin 3	Pin 3	Pin 3
Pin 8 - Ground	Pin 7	Pin 7	Pin 7
Pin 7 - CTS	Pin 20	Pin 4	
	Cable Acc #1251	Cable Acc #1265	Cable Acc #1264
	Part # 12654	Part # 16084	Part # 16157

APPENDIX IV: COMPUTER OUTPUT, COM2 OR COMPUTER OUTPUT, COM3

COMPUTER OUTPUT	
→< SETUP MENU>	
CONTINUOUS	
DEMAND	
AUTO	
CHECKSUM	OFF(ON)
POLL CHARACTER	Cr
START MESSAGE	
BLOCK SEPARATOR	CrLf
END OF MESSAGE	EOT

<SETUP MENU>

This selection will return to the DEVICES MENU

CONTINUOUS

Selects Continuous Computer Output Mode. The continuous mode will transmit once for every display update.

DEMAND

Selects Demand Output Mode. The demand output is transmitted when the 2500 Series instrument receives the proper Poll Character in ASCII format from the receiving computer. The default Poll Character is a Carriage Return (Decimal 13).

Selecting Computer Demand will enable the indicator to receive either a remote Print command or a remote Zero command from the computer. If the indicator receives a P from the computer it will initiate a print cycle. Likewise a Z will perform a zero function.

AUTO

Selects Auto Computer Output Mode. The Auto output is transmitted when an Inbound, Outbound, or GTN ticket is printed.

CHECKSUM

This selection toggles ON and OFF by pressing ENTER when selected. It will determine whether a Checksum character is sent at the end of the computer output.

POLL CHARACTER

The Poll character is the character that will, when received, cause the 2500 Series indicator to transmit the output string when in the demand mode. If changed from a Cr (Carriage Return) use the decimal equivalent of the ASCII character required.

START MESSAGE

This is the first character transmitted in the output string. Enter the decimal equivalent of the ASCII character desired. This is for demand or auto modes.

BLOCK SEPARATOR

This is the character(s) that separates each string of data formatted to send in the demand or auto modes. Enter the decimal equivalent of the ASCII character.

END OF MESSAGE

This is the character that will signal that the transmitted data is complete. The default is EOT (decimal 04). The decimal equivalent of the ASCII character should be entered.

NOTE: The second line of the highlighted area at the top of the display shows the current Output mode selected;CONTINUOUS,DEMAND or AUTO.

A. Continuous Output Mode

The continuous Computer Output is an uninitiated, unrequested output that gets transmitted at a fixed time interval.

Character String	Description
STX	Start of Text character : (02 Hex)
A	Status Word A
B	Status Word B
C	Status Word C
xxxxxx	Displayed Weight : x = Weight (6 characters if the graduation size does not have a decimal point.) (5 characters if the graduation size does have a decimal point. The decimal point is not sent as part of the character string.
xxxxxx	Tare Value : x = Tare (6 characters if the graduation size does not have a decimal point.) (5 characters if the graduation size does have a decimal point. The decimal point is not sent as part of the character string
CR	Carriage Return Character : (0D hex)
CS	Checksum Character : If enabled, this character consists of the last eight bits of the binary sum of all characters transmitted up to this checksum character.

Status Word A

Bit #	Decimal Point or Zero Location							
	x00	x0	x	x.x	x.xx	x.xxx	x.xxxx	x.xxxxx
0	0	1	0	1	0	1	0	1
1	0	0	1	1	0	0	1	1
2	0	0	0	0	1	1	1	1

Increment Size

	Count by 1	Count by 2	Count by 5
3	1	0	1
4	0	1	1
5	Always Logic 1		
6	Always Logic 0		
7	Parity Bit		

Status Word B

Bit #	Description,
0	Gross = 0 Net = 1
1	Positive = 0 Negative = 1
2	In Range = 0 Overcapacity = 1
3	No Motion = 0 Motion = 1
4	lb = 0 kg = 1
5	Always Logic 1
6	Normal = 0 Power Up = 1
7	Parity Bit

Status Word C

Bit #	Description
0	Always Logic 0
1	Always Logic 0
2	Always Logic 0
3	Normal = 0 Print Switch Pushed = 1
4	Always Logic 0
5	Always Logic 1
6	Normal = 0 Keyboard Tare = 1
7	Parity Bit

B. Demand Output

When the Poll Character is received on either Com 2 or Com 3 of the IND-R2500, it will output information based on the FROM TOP and FROM RIGHT coordinates in the GROSS*TARE*NET Ticket Formats menu selections. All character strings that have a non-zero value in either of the coordinates will be transmitted. The order that the character strings appear in the data transmission follows the numbering sequence of the FROM TOP and FROM RIGHT coordinates. An example follows this output description.

Character String	Description	Menu Prompt
xxxxxxx_yy_GR CR LF (x = Weight, y = Units : fixed length, 10 characters) (_GR = Legend : fixed length, 3 characters)	: Gross Weight (with legend)	: GROSS
or		
xxxxxxx_yy CR LF (x = Weight, y = Units : fixed length, 10 characters)	: Gross Weight (no legend)	: GROSS
xxxxxxx_yy_TA CR LF (x = Weight y = Units : fixed length 10 characters) (The space between Weight and Units will be a * if keyboard Tare) (_TA = Legend : fixed length, 3 characters)	: Tare Weight (with legend)	: TARE
or		
xxxxxxx_yy CR LF (x = Weight, y = Units : fixed length, 10 characters) (The space between Weight and Units will be a * if keyboard Tare)	: Tare Weight (no legend)	:TARE
xxxxxxx_yy_NT CR LF (x = Weight, y = Units : fixed length, 10 characters) (_NT = Legend<~>:<~>fixed length, 3 characters)	: Net Weight (with legend)	: NET
or		
xxxxxxx_yy CR LF (x = Weight, y = Units : fixed length, 10 characters)	: Net Weight (no legend)	: NET
xx:xyy CR LF (x = Time, y = am pm : fixed length, 7 characters)	: Time	: TIME
xx-xx-xx CR LF (x = Date : fixed length, 8 characters)	: Date	: DATE
TICKET_NUMBER_xxxxxxx CR LF (TICKET_NUMBER_ = Legend : fixed length, 14 characters) (x = Ticket Number Value : variable length, 8 characters max)	: Ticket Number	: CON#
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx CR LF	: Title Line 1	: TITLE1
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx CR LF	: Title Line 2	: TITLE2
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx CR LF	: Title Line 3	: TITLE3
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx CR LF	: Title Line 4	: TITLE4
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx CR LF	: Title Line 5	: TITLE5
(x = Title Line Text : variable length, 30 characters max)		
xxxxxxxxxxxxxxxx_yyyyyyyyyyyyyy CR LF	: Field Name 1	: fNAME1
xxxxxxxxxxxxxxxx_yyyyyyyyyyyyyy CR LF	: Field Name 2	: fNAME2
xxxxxxxxxxxxxxxx_yyyyyyyyyyyyyy CR LF	: Field Name 3	: fNAME3
xxxxxxxxxxxxxxxx_yyyyyyyyyyyyyy CR LF	: Field Name 4	: fNAME4
xxxxxxxxxxxxxxxx_yyyyyyyyyyyyyy CR LF	: Field Name 5	: fNAME5
xxxxxxxxxxxxxxxx_yyyyyyyyyyyyyy CR LF	: Field Name 6	: fNAME6
xxxxxxxxxxxxxxxx_yyyyyyyyyyyyyy CR LF	: Field Name 7	: fNAME7
(x = Field Name Title : variable length, 15 characters max) (_ = Space Character) (y = Field Name Entry : variable length, 15 characters max)		
SCALE_ID_xx CR LF (SCALE_ID_ = Legend : fixed length, 9 characters) (x = Scale Identifier : fixed length, 2 characters)	: Scale ID	: SC ID
EOT	End of Transmission Character : (04 hex)	
CS	Checksum Character : If enabled, this character consists of the last eight bits of the binary sum of all characters transmitted up to this checksum character.	

C. Auto Output

When a Gross Tare Net print is done, or an Inbound Weighment is completed, or an Outbound Weighment is completed, the IND-R2500 will output information based on the FROM TOP and FROM RIGHT coordinates in the GROSS*TARE*NET, INBOUND, and OUTBOUND Ticket Formats respectively. All character strings that have a non-zero value in either of the coordinates will be transmitted. The order that the character strings appear in the data transmission follows the numbering sequence of the FROM TOP and FROM RIGHT coordinates. An example follows this output description. The details and options on the Gross Tare Net print are the same as the IND-R2500 Format - Demand Output. See Subsection B.

Demand Output for details.

INBOUND and OUTBOUND Formats

Character String	Description	Menu Prompt
xxxxxxx_yy_GR CR LF (x = Weight, y = Units : fixed length, 10 characters) (_GR = Legend : fixed length, 3 characters)	: Gross Weight (with legend)	: GROSS
or		
xxxxxxx_yy CR LF (x = Weight, y = Units : fixed length, 10 characters)	: Gross Weight (no legend)	: GROSS
xxxxxxx_yy_TA CR LF (x = Weight, y = Units : fixed length, 10 characters) (_TA = Legend : fixed length, 3 characters)	: Tare Weight (with legend)	: TARE
or		
xxxxxxx_yy CR LF (x = Weight, y = Units : fixed length, 10 characters)	: Tare Weight (no legend)	: TARE
xxxxxxx_yy_NT CR LF (x = Weight, y = Units : fixed length, 10 characters) (_NT = Legend : fixed length, 3 characters)	: Net Weight (with legend)	: NET
or		
xxxxxxx_yy CR LF (x = Weight, y = Units : fixed length, 10 characters)	: Net Weight (no legend)	: NET
INBOUND_xxxxxxx_yy CR LF (INBOUND_ = Legend : fixed length, 8 characters) (x = Weight, y = Units : fixed length, 10 characters)	: Inbound Weight (with legend)	: WT. IN
or		
xxxxxxx_yy CR LF (x = Weight, y = Units : fixed length, 10 characters)	: Inbound Weight (no legend)	: WT. IN
TARE_ID_XXXXXXXXXXXXX CR LF (TARE_ID_ = Legend : fixed length, 9 characters) (x = Tare ID Value : variable length, 15 characters max)	: Tare ID	: TR. ID
xx:xyy CR LF (x = Time, y = am pm : fixed length, 7 characters)	: Time	: TIME
xx-xx-xx CR LF (x = Date : fixed length, 8 characters)	: Date	: DATE
TIME_IN_xx:xyy CR LF (TIME_IN_ = Legend : fixed length, 8 characters) (x = Time,, y = am pm :fixed length, 7 characters)	: Inbound Time	TM IN
TICKET_NUMBER_XXXXXXX CR LF (TICKET_NUMBER_ = Legend : fixed length, 14 characters) (x = Ticket Number Value : variable length, 8 characters max)	: Ticket Number	: CON#
XXXXXXXXXXXXXXXXX_yyyyyyyyyyyyyy CR LF (x = Header Title : variable length, 15 characters max) (__ = 2 Space Characters) (y = Header Value : variable length, 15 characters max)	: Header Title and Value	HEADER
XXXXXXXXXXXXXXXXX_TOTAL_yyyyyy_zz CR LF	: Header Total	: TOTAL

(x = Header Title : variable length, 15 characters max)

(_TOTAL_ = Legend : fixed length, 7 characters)

(y = Total Weight, z = Units : fixed length, 10 characters)

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx CR LF	:Title Line 1	:TITLE1
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx CR LF	:Title Line 2	:TITLE2
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx CR LF	:Title Line 3	:TITLE3
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx CR LF	:Title Line 4	:TITLE4
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx CR LF	:Title Line 5	:TITLE5

(x = Title Line Text : variable length, 30 characters max)

xxxxxxxxxxxxxxxxx_yyyyyyyyyyyyyyy CR LF	: Field Name 1	:fNAME1
xxxxxxxxxxxxxxxxx_yyyyyyyyyyyyyyy CR LF	: Field Name 2	:fNAME2
xxxxxxxxxxxxxxxxx_yyyyyyyyyyyyyyy CR LF	: Field Name 3	:fNAME3
xxxxxxxxxxxxxxxxx_yyyyyyyyyyyyyyy CR LF	: Field Name 4	:fNAME4
xxxxxxxxxxxxxxxxx_yyyyyyyyyyyyyyy CR LF	: Field Name 5	:fNAME5
xxxxxxxxxxxxxxxxx_yyyyyyyyyyyyyyy CR LF	: Field Name 6	:fNAME6
xxxxxxxxxxxxxxxxx_yyyyyyyyyyyyyyy CR LF	: Field Name 7	:fNAME7

(x = Field Name Title : variable length, 15 characters max)

(_ = Space Character)

(y = Field Name Entry : variable length, 15 characters max)

SCALE_ID_xx CR LF

(SCALE_ID_ = Legend : fixed length, 9 characters)

(x = Scale Identifier : fixed length, 2 characters) : Scale ID : SC ID

EOT End of Transmission Character : (04 hex)

CS CheckSum Character : If enabled this character consists of the last eight bits of the binary sum of all characters transmitted up to this checksum character.

Each of the above character strings can be disabled from transmission. To disable a character string (or strings), place 0.0 in both the FROM TOP and FROM RIGHT coordinates in the INBOUND and / or OUTBOUND Ticket Formats menu selections.

If a character string is disabled, nothing is transmitted. To enable a character string, make either of the FROM TOP or FROM RIGHT coordinates any value other than 0.0. The values entered in the coordinates determine the order that the character strings are transmitted. See the following example.

Example of FROM TOP and FROM RIGHT coordinates for OUTBOUND Ticket Format:

GROSS	0.1, 0.0	LEGEND = YES
TARE	0.2, 0.0	LEGEND = YES
NET	0.3, 0.0	LEGEND = YES
WT IN	0.8,, 0.0	
TR. ID	0.7,, 0.0	
TIME	0.6,, 0.0	
DATE	0.5,, 0.0	
TM IN	0.9,, 0.0	
CON#	0.4,, 0.0	
HEADER	1.0,, 0.0	
TOTAL	0.0,, 0.0	
TITLE1	0.8,, 0.0	
TITLE2	0.0,, 0.0	
TITLE3	0.0,, 0.0	
TITLE4	0.0,, 0.0	
TITLE5	0.0,, 0.0	
fNAME1	0.0,, 0.0	
fNAME2	0.0,, 0.0	
fNAME3	0.0,, 0.0	
fNAME4	0.0,, 0.0	
fNAME5	0.0,, 0.0	
fNAME6	0.0,, 0.0	
fNAME7	0.0,, 0.0	
SC ID	0.0,, 0.0	

Example Output based on the above coordinates:

__63520_lb_GR CR LF	(GROSS)
__20440_lb_TA CR LF	(TARE)
__43080_lb_NT CR LF	(NET)
TICKET_NUMBER_2067 CR LF	(CON#)
11/08/94 CR LF	(DATE)
10:17am CR LF	(TIME)
TARE_ID_36042 CR LF	(TR. ID)
INBOUND__20440_lb CR LF	(WT. IN)
_9:46am CR LF	(TM IN)
PRODUCT__SAND	(HEADER)
EOT	
CS	

INBOUND

The following is an updated list of fields available available for output in the Inbound ticket format.

<u>Menu Prompt</u>	<u>Description</u>
GROSS	Gross Wt
TARE	Tare Wt
NET	Net Wt
WT. IN	Inbound Wt
TR. ID	Tare ID
TIME	Time
DATE	Date
TM IN	Time In
CON#	Ticket Nbr
HEADER	Header
TOTAL	Total for Header
TITLE1	Title Line 1
TITLE2	Title Line 2
TITLE3	Title Line 3
TITLE4	Title Line 4
TITLE5	Title Line 5
fNAME1	field Name 1
fNAME2	field Name 2
fNAME3	field Name 3
fNAME4	field Name 4
fNAME5	field Name 5
fNAME6	field Name 6
fNAME7	field Name 7
SC ID	Scale ID

The <MORE> menu selection is no longer used to display more output selections. Use the Up and Down arrow keys to move around and the display will adjust automatically.

OUTBOUND

The following is an updated list of fields available available for output in the Outbound ticket format.

<u>Menu Prompt</u>	<u>Description</u>
GROSS	Gross Wt
TARE	Tare Wt
NET	Net Wt
WT. IN	Inbound Wt
TR. ID	Tare ID
TIME	Time
DATE	Date
TM IN	Time In
CON#	Ticket Nbr
HEADER	Header
TOTAL	Total for Header
TITLE1	Title Line 1
TITLE2	Title Line 2
TITLE3	Title Line 3
TITLE4	Title Line 4
TITLE5	Title Line 5
fNAME1	field Name 1
fNAME2	field Name 2
fNAME3	field Name 3
fNAME4	field Name 4
fNAME5	field Name 5
fNAME6	field Name 6
fNAME7	field Name 7
SC ID	Scale ID

GROSS*TARE*NET

The following is an updated list of fields available available for output in the Gross Tare Net ticket format.

<u>Menu Prompt</u>	<u>Description</u>
GROSS	Gross Wt
TARE	Tare Wt
NET	Net Wt
TIME	Time
DATE	Date
CON#	Ticket Nbr
TITLE1	Title Line 1
TITLE2	Title Line 2
TITLE3	Title Line 3
TITLE4	Title Line 4
TITLE5	Title Line 5
fNAME1	field Name 1
fNAME2	field Name 2
fNAME3	field Name 3
fNAME4	field Name 4
fNAME5	field Name 5
fNAME6	field Name 6
fNAME7	field Name 7
SC ID	Scale ID

APPENDIX V: ASCII Chart

Decimal Code #	Control Char	Decimal Code #	Control Char	Decimal Code #	Control Char	Decimal Code #	Control Char
0	NUL	33	!	66	B	99	c
1	SOH	34	"	67	C	100	d
2	STX	35	#	68	D	101	e
3	ETX	36	\$	69	E	102	f
4	EOT	37	%	70	F	103	g
5	ENQ	38	&	71	G	104	h
6	ACK	39	'	72	H	105	i
7	BEL	40	(	73	I	106	j
8	BS	41	)	74	J	107	k
9	HT	42	*	75	K	108	l
10	LF	43	+	76	L	109	m
11	VT	44	,	77	M	110	n
12	FF	45	-	78	N	111	o
13	CR	46	.	79	O	112	p
14	S0	47	/	80	P	113	q
15	S1	48	0	81	Q	114	r
16	DLE	49	1	82	R	115	s
17	DC1	50	2	83	S	116	t
18	DC2	51	3	84	T	117	u
19	DC3	52	4	85	U	118	v
20	DC4	53	5	86	V	119	w
21	NAK	54	6	87	W	120	x
22	SYN	55	7	88	X	121	y
23	ETB	56	8	89	Y	122	z
24	CAN	57	9	90	Z	123	{
25	EM	58	:	91	[	124	|
26	SUB	59	;	92	\	125	}
27	ESC	60	<	93	]	126	~
28	FS	61	=	94	^	127	Delete
29	GS	62	>	95	-		
30	RS	63	?	96	`		
31	US	64	@	97	a		
32	Space	65	A	98	b		



NOTE: Refer to your printer or computer's User Manual for special control codes that your printer or computer may require for proper operation.