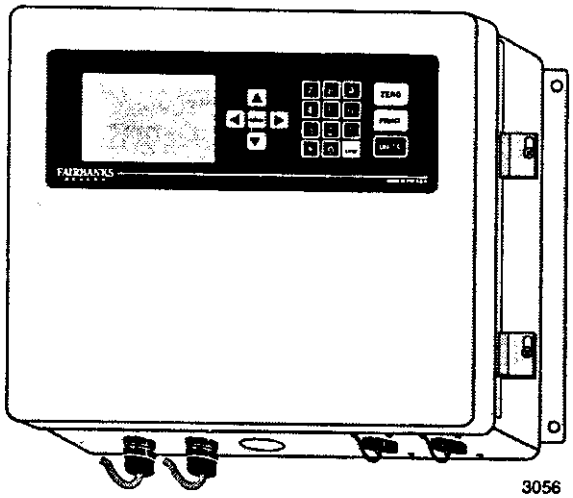
SERVICE MANUAL

Fairbanks® Scales

IND-HR2500-Q1 Indicator with Intalogix™ Technology



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DISCLAIMER

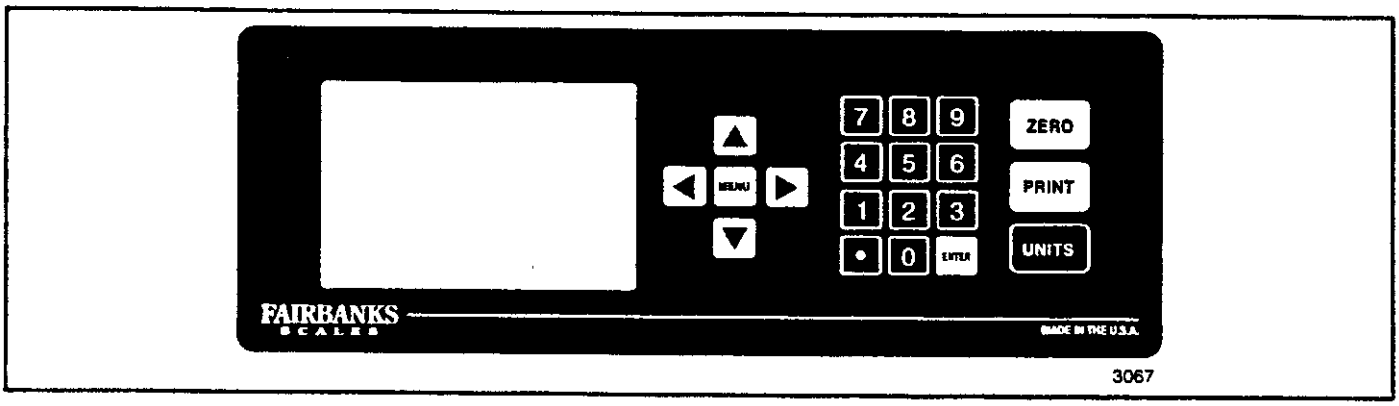
Every effort has been made to provide complete and accurate information in this manual. However, although this manual may include a specifically identified warranty notice for the product, Fairbanks Scales makes no representations or warranties with respect to the contents of this manual, and reserves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

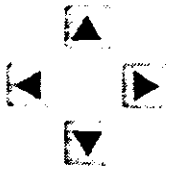
SECTION 1:
OPERATOR SECTION

1.1 Introduction

The IND-HR2500-Q1 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.

1.2 Front Panel





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. In the Data Terminal mode, an Inbound or Outbound Gross ticket, or a Gross, Tare, Net ticket may be printed. In the Weigh Only mode, a Gross Weight ticket will be printed.

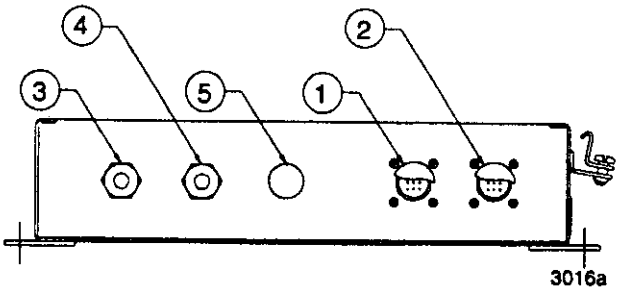
Units Key - Changes the units of weight displayed, depending on the selection made in the Calibration Menu.

0 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. See Section 6.2 under Service Menu for selection information. The operating mode is set in the Service Menu. When the system is powered up, the display for the Operating Mode will be shown.

1.3 Bottom of the IND-HR2500-Q1



1. COM2 Port - RS232 Output. If accessory ACC-2020 is used, this port is dedicated to the modem. Otherwise, it can be configured for a computer or printer.
2. COM3 Port - RS232 Output. Can be configured for a computer or printer.
3. Liquid tight gland for the QMB cable, ACC-3000
4. AC Power Cord
5. Extra hole for second scale, etc.

1.4 Cabling

A. Introduction

The cable from the QMB enters the Q1 indicator through one of the holes in the bottom. If one QMB is used, the cable can come through the installed liquid tight gland. If two QMBs are used, the whole cover on the bottom of the indicator will have to be removed and a liquid tight gland installed.

One QMB Connection

The cable from the first QMB is connected to TB2 on the QMB Interface Board. The dip switches, S1, at the top of the of the QMB Interface Board are set 1 and 6 ON, and all of the rest OFF.

Two QMB Connection

The cable from the first QMB is connected to TB2 and the cable from the second QMB is connected to TB3 on the QMB Interface Board. The dip switches S1, at the top of the QMB Interface Board are set 1,5 and 6 ON and all of the rest OFF.

QMB Cable Routing

It is important that the cable from the QMB be routed properly inside the Q1 indicator. This is to prevent the cable from interfering with the hinge or the electronic components on the QMB Interface Board. Two wire tie mounts have been installed inside the indicator, one on the hinge side of the inclosure and the other on the cover, below the QMB Interface Board.

1. Bring the QMB cable through the liquid tight gland in the bottom of the indicator.
2. Tie-wrap the cable to the wire tie mount near the hinge.
3. Bring the cable be the end of the QMB Interface Board and tie-wrap it to the second wire tie mount.
4. Bring the end of the cable up to TB2 on the QMB Interface Board.
5. If a second QMB cable is to be installed, use tie-wraps to secure it to the first cable.

Remote Display Cable Connectors

If a remote display is to be part of the system, it should be installed and programmed through the DIS port on the mother board. The cable from the remote display is brought through a liquid tight connector installed in the hole. A DB9 connector is installed on the end of the cable and plugged into P3 on the mother board. See Appendix III B for the wiring information. See Section 4.4.15.1.2 for programming information.

1.5 Sealing

The indicator and the QMB's must be sealed before the scale can be put into service. Hole 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 2:
PASSWORD/SECURITY CODE

2.1 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 Operations Menu items can not be password protected:

Operations Menu

Ticket Number

Keyboard Tare

Auto Tare

2.2 Use of Password/Security Code

In the Operation Menu, if a key symbol is display 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.

2.2.1 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 Operation Menu.

2. Once a password has been entered, it can not be deleted, but it can be changed.

2.3 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**.

2.4 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.

2. The display will show "ENTER SECURITY CODE." Enter the password to be used. 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." Press the ENTER key to return to the weigh screen.

2.5 SERVICE MENU PASSWORD

The Service Menu maintenance screen is accessed through the Operation Menu. With the Weigh screen displayed:

1. Press the MENU key to access the Operations Menu.

2. At the Operation menu, place the cursor beside SERVICE MENU. With the keypad in use, press the "<", ">" and ENTER keys in sequence.

3. The display will show "ENTER SECURITY CODE." Enter the password to be used. The code can be from one to fourteen characters long. Press the ENTER key. If no password has been entered, this will become the password. If a password has been previously entered, this will overwrite the existing password.

4. The display will show, "SECURITY CODE ACCEPTED." Press the ENTER key to return to the Operation menu.

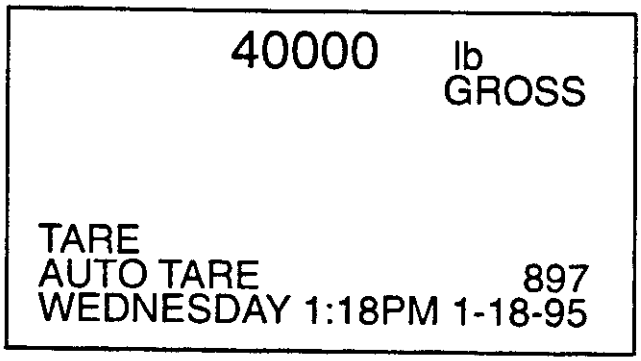
An alternate method to change the Service Menu password is available. Access the Service Menu. Select "Write Password" and press the ENTER key. The display will show "Enter Security Code". Enter the password to be used and press the ENTER key. The display will show "Security Code Accepted". The display will then return to the Service Menu.

SECTION 3:
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. See Section 7.2 under Service Menu for selection information. The operating mode is set in the Service Menu. When the system is powered up, the display for the Operating Mode will be shown.

3.1 WEIGH ONLY, Main Menu

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



3.1.1 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.

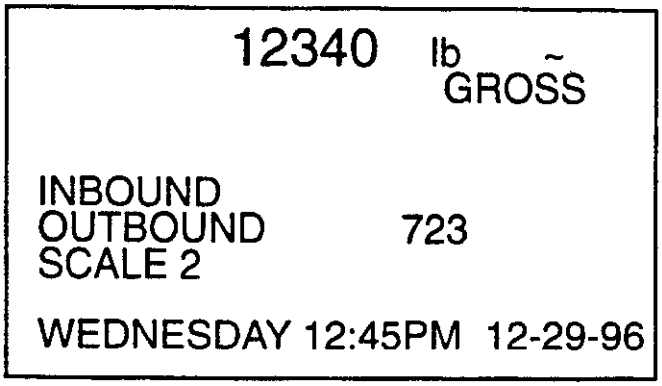
e. TARE
This option is used when a Tare is to be entered through the keyboard or keypad.

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 Operations Menu.

3.2 IN/OUT, Main Menu

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



3.2.1 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 Operations Menu.

3.3 Basic Operations Summary

3.3.1 WEIGH ONLY MODE Summary

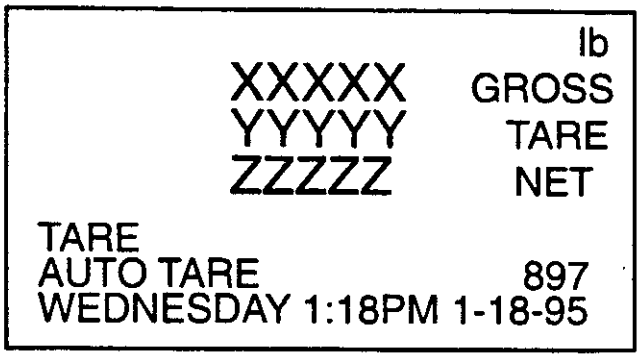
There are two options available in the WEIGH ONLY MODE, Gross Weighing and Gross-Tare-Net Weighing.

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.

B. Gross-Tare-Net 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 empty container on the platform.
4. Choose TARE or AUTO TARE at the menu.
   a. If TARE is selected, enter the known Tare Weight through the keypad.
   b. If AUTO TARE is selected. When the display is stable, press the ENTER key. The weight will be stored as a Tare Weight.
5. Remove the container from the platform and fill it with the product to be weighed.
6. Place the filled container back onto the platform. The display will show:



7. 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 4.

C. 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.

3.3.2 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.

3.4 In/Out Weighing

3.4.1 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."

1. With the indicator powered up, press the ZERO key.
2. Place the container to be weighed on the platform. This will be the first weighment.
3. Use the UP or DOWN arrow key to place the curser beside "INBOUND" and press the ENTER key.
4. 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.
5. 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.
6. Remove the container from the platform. Material can be added or removed from the container.

To complete the transaction:

7. Move the container back onto the platform. Use the UP or DOWN arrows to place the curser beside OUTBOUND and press the ENTER key.
8. 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.
9. 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.

3.4.2 Weighing, LOOP ID, With Inbound Ticket

Setup

This is the default setup. No changes have to be made. The defaults are:

1. LOOP ID Only
2. Inbound Ticket Printed
3. Outbound Ticket Printed
4. Transaction Entered Into The Report

3.4.3 Weighing, LOOP ID, No Inbound Ticket

Setup

This sequence sets the program for NO INBOUND TICKET to be printed. This is done by setting all INBOUND data locations to zero.

To do this:

1. Go to Operator Menu
2. Select Configuration Menu
3. Select Communications Port Menu
4. Select INBOUND FORMAT MENU
5. Set all locations to zero.
6. Press the ENTER key

3.4.4 Weighing, LOOP ID, Other ID, With Inbound Ticket

Setup

This sequence sets the program to accept an ID Number which will be printed on the Inbound and Complete Transaction Tickets. To set up the ID:

1. Go to Operator Menu
2. Select Configuration Menu
3. Select Prompts Menu
4. Select Product IN
5. Press the ENTER key to toggle between YES and NO.
6. With YES displayed, press the Menu Key

3.4.5 Weighing, LOOP ID, Other ID, No Inbound Ticket

Setup

This sequence sets the program to accept an ID Number which will be printed on the Inbound and Complete Transaction Tickets. To setup the Other ID:

1. Go to Operator Menu
2. Select Configuration Menu
3. Select Prompts Menu
4. Select Product IN
5. Press the ENTER key to toggle between YES and NO.
6. With YES displayed, press the Menu Key

This sequence sets the program for NO INBOUND TICKET to be printed. This is done by setting all INBOUND data locations to zero. To do this:

1. Go to Operator Menu
2. Select Configuration Menu
3. Select Communications Port Menu
4. Select INBOUND FORMAT MENU
5. Set all locations to zero.

SECTION 4:
PROGRAMMING

4.1 General Programming Instructions

A. There are three programming menus that contain all of the parameters for the system.

1. **Operators Menu** - Accessible without a password by pressing the MENU key. This menu is used for general weighing operations.

2. **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.

3. **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.

4. **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.

B. It is recommended that a keyboard be part of the system so that data may be entered in both alpha and numeric formats.

C. The following instructions apply to all of the menus.

1. In all menus, the UP or DOWN arrows move the cursor in the indicated direction.

2. To make an entry, place the cursor beside the item to be selected and press the ENTER key. The operator will be prompted for the data to be entered.

3. A "key" symbol beside a menu item means the item is "locked" and can only be accessed with a password.

4. Data may be entered through the keypad.

5. When the appropriate data has been entered, press the ENTER key to record the data into memory.

4.2 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
MODEM SERVICE
CONFIGURATION MENU
SERVICE MENU

4.2.1 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.

4.2.3 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.*

4.2.4 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.

4.2.5 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.

4.2.6 Modem Service

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

4.2.7 Configuration Menu

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

4.2.8 Service Menu

To select, press the ENTER key. If locked, enter the SERVICE PASSWORD to enter the Service Menu.

4.3 Modem Service

4.3.1 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 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. OPERATIONS MENU - This selection returns the display to the OPERATIONS 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 BAUD	NONE PARITY	8 DATA	1 STOP
19200	NONE	7	1
9600	ODD	8	2
4800	EVEN		MENU
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.

4.4 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:

CONFIGURATION MENU
OPERATION MENU
KEYBOARD TARE
AUTOTARE
SELECT SCALE
TITLE
FIELD NAMES
PRODUCT ID
PRODUCT PROMPT
REPORTS
DISPLAY CONTRAST
AUDIBLE ALARM (ON or OFF)
LOAD CELL DIAGNOSTICS
4 TO 20 mA SETUP
COMMUNICATION PORTS

4.4.1 OPERATION MENU

Select this option to return to the OPERATION MENU.

4.4.2 KEYBOARD TARE

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

4.4.3 AUTOTARE

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

4.4.4 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.

4.4.5 TITLE

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

4.4.6 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 "GNT", "IN", "and "OUT". Each prompt can be toggled ON or OFF. Only Field Name #1 is stored and available for reporting.

4.4.7 PRODUCT ID

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

4.4.8 PRODUCT PROMPT

Enables or disables product prompts in the GTN, Inbound or Outbound menus.

4.4.9 REPORTS

Select to print, review, and delete reports.

See Subsection 4.4.9.1, REPORTS.

4.4.10 DISPLAY CONTRAST

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

4.4.11 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.

4.4.12 LOAD CELL DIAGNOSTICS

Displays a legend, "GOOD" or "BAD" for each load cell in the system.

4.4.13 4-20 mA SETUP

Used to configure the 4 to 20 mA output. See Subsection 4.4.13.1 for more information.

4.4.14 COMMUNICATIONS PORT

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

Used to configure communications ports 2,3,4, and 5. Only COM ports 2 and 3 are available for use. See Subsection 4.4.14.1 for more information.

4.4.9.1 REPORTS

The REPORTS MENU is used to 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

1. CONFIGURATION MENU - This option 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.

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

2. 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.

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

4. 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.

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

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

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

8. 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.

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

10. 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.

11. 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.

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

13. 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.

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

4.4.13.1 4 TO 20 mA SETUP

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

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

To configure the 4/20 mA Output, connect a milliammeter 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 "–".

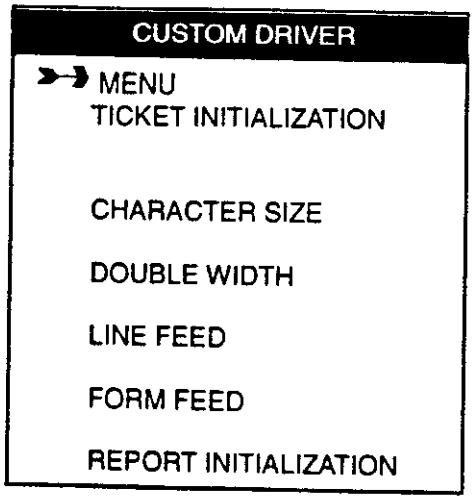
1. CONFIGURATION MENU - This selection returns the display to the CONFIGURATION MENU.
2. MAXIMUM WEIGHT - Enter the weight at which the 4 to 20 mA output will be at 20 mA.
3. ADJUST SPAN 20 mA - With the milliammeter connected to pins 1 and 2, and the cursor beside this option, press the ENTER key. While watching the meter, press either the UP or the DOWN arrow, until the meter reads 20mA.
4. MINIMUM WEIGHT - Enter the weight at which the 4 to 20 mA output will be at 4 mA.
5. ADJUST ZERO 4mA - With the milliammeter 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.
6. MODE (GROSS/NET) - Enter the mode, GROSS or NET, that the 4 to 20 mA output will track.

4.4.14.1 COMMUNICATION PORTS

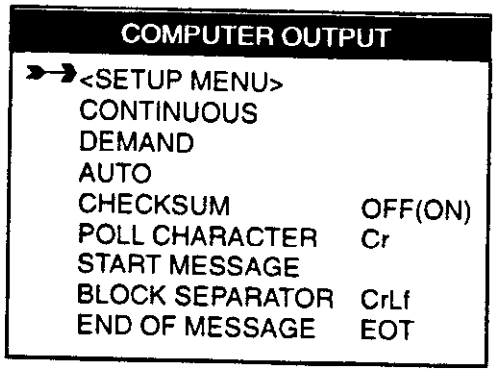
This selection is used to configure communication ports 2 and 3. When this option is selected, the display will show:

COM PORT 2
CONFIGURATION MENU
COM PORT
DEVICES
DEFAULT FORMAT
INBOUND FORMAT
OUTBOUND FORMAT
GROSS*TARE*NET FORMAT
BAUD SELECTION
INVERSE PRINT
ENLARGED CHARACTERS
FORM SIZE
REMOTE DISPLAY

1. COM PORT 2 - This displays the communications port that is being configured.
2. CONFIGURATION MENU - When this item is selected, the display returns to the CONFIGURATION MENU.
3. 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.
4. 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 Subsection 4.4.15.1.1.
5. DEFAULT FORMAT - This selection sets the default print parameters and baud selection for the device selected.
6. INBOUND FORMAT - This selection is used to customize the locations of the printed information on the inbound part of the ticket or form.

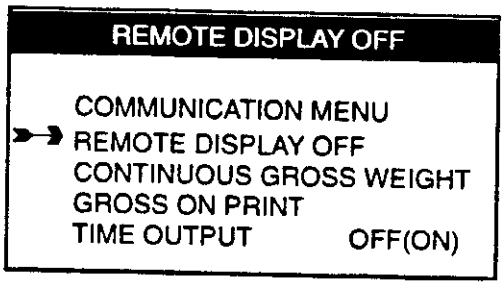


5. If COMPUTER (PC) is selected the screen will show:



4.4.15.1.2 Remote Display

If REMOTE DISPLAY is selected, the display will show:



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.

SECTION 5:
FEATURES

5.1 Introduction

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

5.2 REPORT FIELD PRIORITY

When a transaction record is created, there are eleven 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.

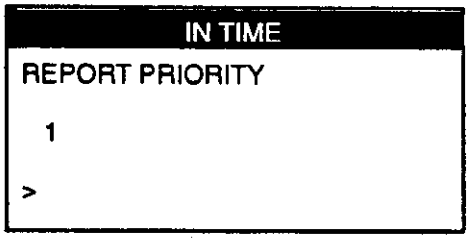
The 11 data fields created are as follows:

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

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:



   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 field 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.

5.2.1 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.

5.3 SEARCH FIELD FEATURE

The transactions records stored in memory can be sorted and then printed in reports by using the "search field" feature. Each data set within the records is a field. Any one of the data fields can be used as the search field. When a search field is selected, all of the transaction records are organized according to the selected field and then printed out in the report form. The search field feature does not change the priorities assigned to field in the report.

5.3.1 TRICKS

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

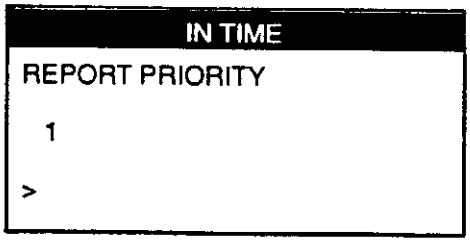
Date Format Feature

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.

5.3.2 USING THE SEARCH FIELD FEATURE

To use the search field feature:

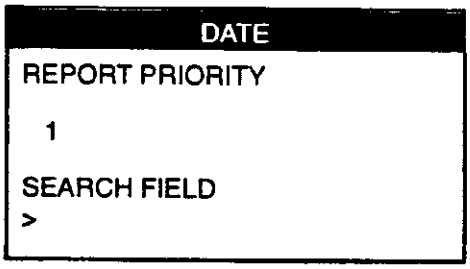
1. Select the "Report Generator 1" option at the REPORT menu. The display will show:



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 filed.

5.3.3 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 transaction 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 filed 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 back arrow on the keypad.

SECTION 6:
SERVICE MENU

To enter the SERVICE MENU, place the cursor beside the legend and press the ENTER key. The operator will be prompted for a PASSWORD. Enter the password and press the ENTER key.

SERVICE MENU
OPERATION MENU
OPERATING MODE
UPDATE RATE
ZERO MODE
TARE MODE
NUMBER SCALES
CELL OUTPUT (COUNTS)
CALIBRATION
WRITE PASSWORD
PRINT CALIBRATION REPORT
SPECIAL FUNCTIONS

6.1 OPERATION MENU

This selection returns the display to the OPERATION MENU.

6.2 OPERATING MODE

This selection allows the choice using the indicator as a Weigh only or In/Out device.

6.3 UPDATE RATE

This selection allow the display update rate to be changed in increments of 0.1 seconds.

6.4 ZERO MODE

This selection allows for the selection of 2% OF CAPACITY or 100% OF CAPACITY, as well as ZERO SWITCH enabled or disabled, and PRINT INHIBIT, YES or NO.

6.5 TARE MODE

This selection is used to:

1. enable or disable tares, set the tare expiration time in days
2. put the system in the AUTO CLEAR mode
3. set the Tare Expiration time in days

6.6 NUMBER SCALES

Enter the number of scale platforms, 1 or 2, that are in the system.

6.7 CELL OUTPUT (COUNTS)

When this item is selected, the display will show "Calibration zero counts" and "current zero counts". This display is for information only. Values cannot be changed from this display.

EXAMPLE OF LOAD CELL COUNT VALUE DISPLAY

CELL	CALIBRATION	CURRENT
1	16432	18825
2	16900	17002
3	15310	15378

The chart will list all of the cells by number. Cells that the system deems "BAD" will be highlighted. These cells are out of tolerance by about 2.5% of the scale capacity.

6.8 CALIBRATION

When this item is selected, the display changes to the CALIBRATION MENU. See Section 6.8.1 for more information.

6.9 WRITE PASSWORD

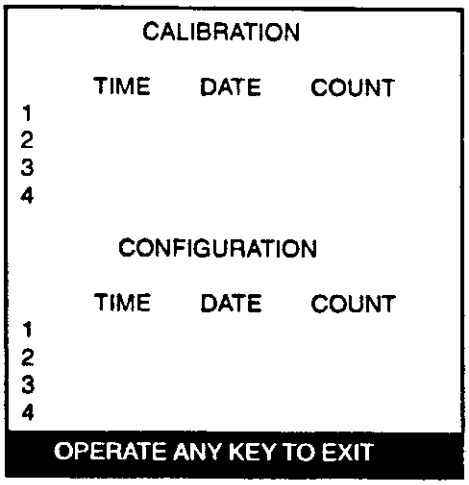
Select this option to enter or change the password used to enter the SERVICE MENU. The password can be numbers. When a password has been entered and accepted, a "key" will appear beside the SERVICE MENU legend in the OPERATION MENU. This means a password must be entered before the SERVICE MENU can be accessed.

6.10 PRINT CALIBRATION REPORT

When this option is selected, a complete calibration and configuration record is printed if a Form Printer is part of the System. The records list all of the calibration and configuration parameters that have been programmed into the indicator. It is recommended that a record be printed at the end of the set-up procedure and a copy be kept by the customer and a second copy retained by the Service Center.

6.11 Viewable Audit Trail

When "Print Calibration Report" is selected, the Audit Trail will be displayed. The screen will show:



This display shows the time and date when the calibration or configuration programs were changed. The first column is the number of the platform, followed by the time and date the change was made. The count column shows the number of times the platform has been calibrated or reconfigured. This display is updated automatically with each calibration or configuration change. It cannot be changed manually.

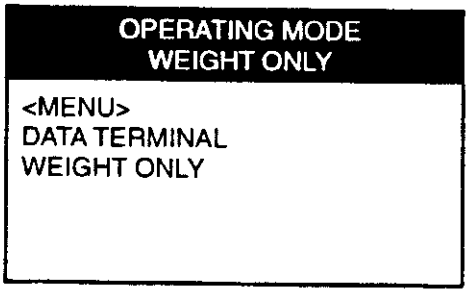
6.12 SPECIAL FUNCTIONS

Select this option to access the Special Functions Menu which contains Span Corners, Hysterisis, and Clear All Memory.

6.2.1 SELECT OPERATING MODE

To select the operating mode:

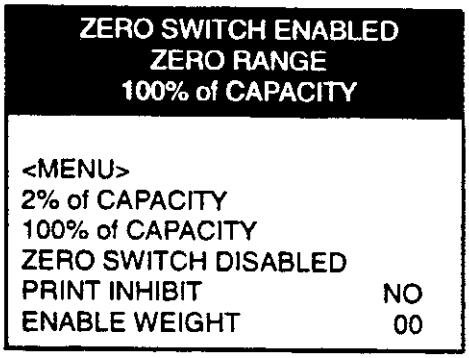
1. At the Main Display, press the MENU key. The display will show the OPERATION MENU.
2. At the Operation Menu, select SERVICE MENU and press the ENTER key. The display will show the Service Menu with the cursor beside OPERATING MODE.
3. Press the ENTER key and the display will show:



4. Place the cursor beside the appropriate operating mode and press the ENTER key.
5. The legend at the top of the menu will change to show the mode that has been selected. If the displayed mode is correct, press the MENU key to return to the Service Menu.

6.4.1 ZERO MODE

1. At the Main Display, press the MENU key. The display will show the OPERATION MENU.
2. At the Operation Menu, select SERVICE MENU and press the ENTER key. The display will show the Service Menu with the cursor beside OPERATING MODE.
3. Place the cursor beside ZERO MODE and press the ENTER key. This display will show:



The legend at the top of the screen shows the current setting.

2% or 100% OF CAPACITY - This is the amount of weight that can be "zeroed off" when the ZERO key is pressed. Place the cursor beside the appropriate selection and press the ENTER key. The legend at the top of the screen will change to show the chosen item.

ZERO SWITCH enabled or disabled - The selection enables or disables the ZERO key on the front panel. If "disabled" is selected, the ZERO key will NOT operate. Press the ENTER key to toggle between "ENABLE" or "DISABLE". The legend at the top of the screen will change with each toggle.

PRINT INHIBIT YES or NO - When "YES" is selected, only ONE print per weighment will be allowed. Select "NO" and the print cycle is in the normal configuration.

ENABLE WEIGHT - This is the minimum amount of weight that must be on the platform for a weighment to begin. Place the cursor beside this choice and press the ENTER key. Enter the minimum weight through the key pad and press the ENTER key. The entered value will be displayed beside the legend.

When the appropriate parameters for each of the items has been selected, press the MENU key to record the selections and return to the Service Menu.

6.8.1 CALIBRATION MENU & RECOMMENDED CALIBRATION PROCEDURE

This menu is used when ever the scale needs to be calibrated. It is a good idea to keep the cells, sections and scales numbered during the calibration procedure.

CALIBRATION MENU
SERVICE MENU
SCALE ID X
SCALE UNITS
DIVISION SIZE
MOTION BAND
AUTO ZERO TRACKING BAND
FILTER FACTOR
FIRST CELL ID
LAST CELL ID
CELL CAPACITY
SCALE CAPACITY
CALIBRATION WEIGHT
CELL SENSITIVITY mV/V
SPAN (SECTIONS)
TRIM, CELL/SECTION/SCALE

When an items is selected from the menu, a second menu listing the available choice will be displayed. Place the cursor beside the appropriate choice in the second menu and press the ENTER key to select.

RECOMMENDED CALIBRATION PROCEDURE

The following procedure is recommended when calibrating the Q1 indicator and a platform.

1. Select the Service Menu.
2. In the Service Menu, select the Calibration Menu.
3. Enter all of the information asked for in the Calibration Menu. At the Cell Sensitivity selection, enter the mV/V, if known. If this information is not known, enter a "2" or a "3".
4. Enter the resistance, usually 350 or 1000.
5. With no weight on the platform, select "Calibrate" and press the ENTER key.
6. Select "TRIM CELL" in the Calibration Menu. Enter the number of the load cell to be trimmed.
7. Place the test weight over the selected cell. Press and hold the UP or DOWN arrow key, until the weight displayed is equal to the test weight value.
8. Repeat this process for each of the other load cells.
9. After the load cells have been trimmed, the scale should be trimmed. In the Calibration Menu, select Trim Scale.
10. Place the test weight in the center of the platform.

11. Press and hold the UP or DOWN arrow key until the weight displayed is equal to the test weight value.

12. This completes the scale calibration.

Calibration Menu Descriptions

1. SERVICE MENU - This selection will return the display to the SERVICE MENU.

2. SCALE ID X - The "X" is the number of the scale being calibrated. If there is only one scale, enter "1". If there is more than one scale in the system, the data in this menu will have to be entered FOR EACH SCALE, separately.

3. SCALE UNITS - These are the units used to calibrate the scale. This selection will also be the primary units of weight displayed in weighing operations.

4. DIVISION SIZE - This selection is used to chose the appropriate division size. If "DUAL RANGE" is selected, enter the smaller division size. The indicator automatically switches to the next higher division size for the higher range.

5. MOTION BAND - This option is used to select the number of divisions within the motion band of the platform.

6. AUTO ZERO TRACKING BAND - This option is used to select the number of divisions the scale may very from zero before it needs to be re-zeroed.

7. FILTER FACTOR - This option is used to set the digital filter. On most floor scale applications, select "MEDIUM" filtering.

8. FIRST CELL ID - This is the ID number assigned to the first load cell in the scale. Usually, the number "1" will be assigned to first cell in scale one. In a two scale system, "1" would be assigned the first cell in scale 1 and "5" would be assigned to the first cell in scale 2.

9. LAST CELL ID - This is the ID number for the last load cell in the scale. If there is only one scale, this will be the number of the last load cell. If there are two scales in the system, the last load cell in scale 1 might be "4" and the last load cell in scale 2 might be "8".

10. CELL CAPACITY - This is the rated capacity of the load cells in the scale. This value may be different for two different scales in the same system.

11. SCALE CAPACITY - Enter the rated capacity of the scale being calibrated. If "DUAL RANGE" was selected in item 4, enter the smaller capacity first, and then the larger capacity.

12. CALIBRATION WEIGHT - Enter the weight to be used to calibrate the scale.

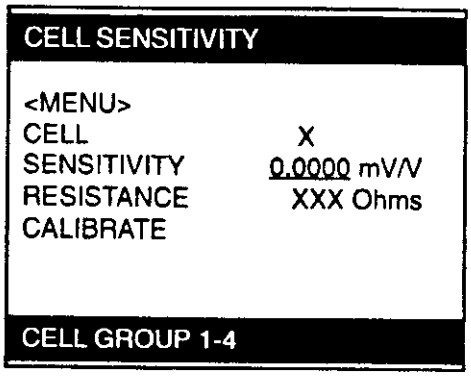
13. CELL SENSITIVITY mV/V - This option sets the mV/V for each of the load cells. See section 6.8.1.13 for more information.

14. SPAN (SECTIONS) - This option is used to span the scale sections. See Section 6.8.1.14 for more information.

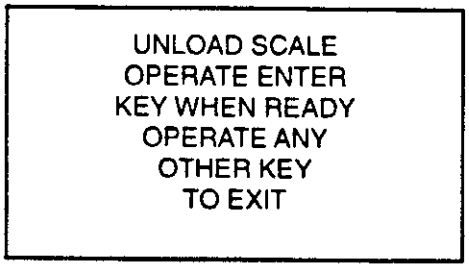
15. TRIM, CELL/SECTION/SCALE - This option is used to trim the scale by cells, sections, or the whole scale. See section 6.8.1.15 for more information

6.8.1.13 CELL SENSITIVITY mV/V

The sensitivity, in mV/V, must be set for each cell in the scale. When this option is selected in the SERVICE MENU, the display will show:



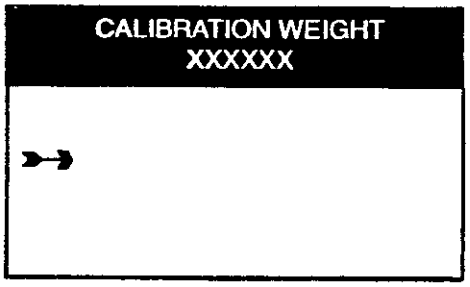
1. <MENU> - This selection will return the display to the SERVICE MENU
2. CELL X -This is the number of the cell that is being calibrated. Enter the cell number through the keypad.
3. SENSITIVITY 0.0000 mV/V - This is the cell sensitivity as listed on the cell serial tag or the specification sheet supplied with the cell.
4. RESISTANCE Ohms - This is the cell resistance as listed on the cell serial tag or the specification sheet supplied with the cell.
5. CALIBRATE - When this option is selected, the load cells in the cell group, listed in the bottom line of the display, will be calibrated automatically. Select this option and the display will show:



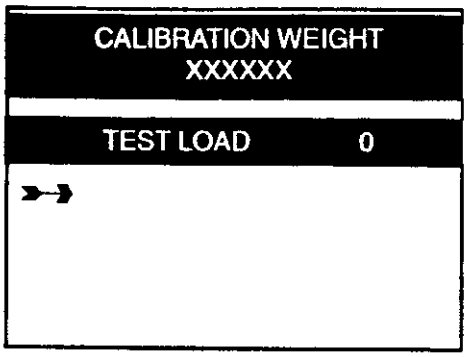
6. CELL GROUP 1-4 - This item is automatically determined and displays the cells that will be calibrated when the ENTER key is pressed.

6.8.1.14 SPAN (SECTIONS)

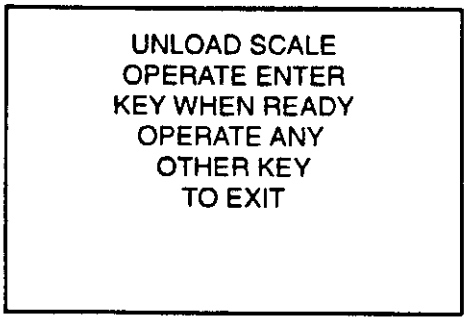
This option is used to span the scale by sections. Section 1 is load cells 1 and 2, and Section 2 is load cells 3 and 4. Check the QMB to determine the load cell numbers. This works best with a concentrated load centered on the section. When this option is selected, the operator will be prompted for a "Scale ID". Enter the Scale number and press the ENTER key. The display will show:



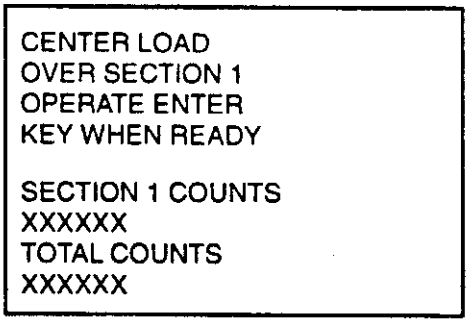
Enter the calibration weight that will be used to span the scale. Press the ENTER key and the display will show:



6.8.1.14.1 Enter the test load if different from the one displayed and press the ENTER key. The display will show:



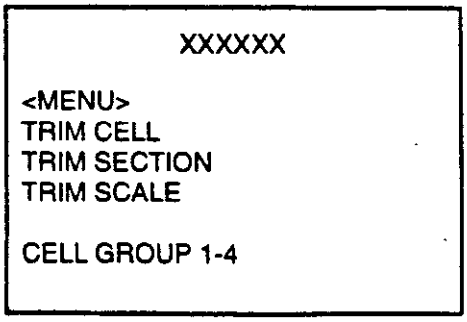
6.8.1.14.2 Press the ENTER key and the display will show:



6.8.1.14.3 When the ENTER key is press the display will change to 6.8.14.1, with the section number as "2". Repeat the process for each of the scale sections.

6.8.1.15 TRIM CELL/SECTION/SCALE

Additional adjustment can be achieved by trimming each of the load cells. At the Calibration Menu, select "TRIM, CELLS/SECTION/SCALE" and press the ENTER key. The display will show:



1. The "XXXXXX" is the weight on the scale.

2. TRIM CELL - Select this option if the scale is to be trimmed by load cells. When this item is selected, the operator will be asked for the number of the load cell to be trimmed.

3. TRIM SECTION - Select this option if the scale is to be trimmed by sections. The operator will be asked for the number of the section to be trimmed.

4. TRIM SCALE - Select this option if the scale is to be trimmed as a single unit.

5. ADJUST FINE - This option toggles the display between "FINE" and "COARSE". These legends describe the rate of change in the weight displayed when the UP or DOWN arrows are pressed in the TRIM mode. Fine means the displayed weight will change "SLOWLY", COARSE means the displayed weight will change "RAPIDLY".

To Trim cells/sections/scale:

1. Place the test weight to be used in the appropriate location on the platform.
   a. To trim a cell, place the test weight over the load cell to be trimmed.
   b. To trim a section, place the test weight in the center of the section to be trimmed.
   c. To trim the scale, place the test weight anywhere on the platform.
2. Select the appropriate ADJUST rate from the menu. Press the ENTER key.
3. Place the cursor beside the appropriate legend in the display and press the ENTER key.
4. If load cell or section is selected, the legend will "blank". Enter the number of the load cell or section that is going to be trimmed and press the ENTER key. If scale is selected, this step will be skipped.
5. The cursor will "flash" and a weight will be shown at the top of the display.
6. Use the UP or DOWN arrows to adjust the weight shown to match the test weight on the scale.
7. When the appropriate weight is shown, press the ENTER key. The cursor will stop flashing.

SECTION 7:
SPECIAL FUNCTIONS

7.1 Special Functions Menu

This menu is used to program SPECIAL FUNCTIONS.

SPECIAL FUNCTIONS MENU
SERVICE MENU
SPAN (CORNERS)
HYSTERESIS
TELEPHONE #
CLEAR ALL MEMORY

1. SERVICE MENU - This option returns the display to the SERVICE MENU.

2. SPAN CORNERS - This option is used when it is appropriate to span the corners of the scale. For more information, see section 7.2.1.

3. HYSTERESIS - This option is used when it is appropriate to implement the HYSTERESIS program. For more information, see section 7.2.2.

4. TELEPHONE # - This should be the telephone number of the local service organization, including area code. This is the telephone number that will be displayed if the indicator detects load cell problems. This number is entered by the technician at the time of installation.

5. CLEAR ALL MEMORY - This option clears all of the data in the memory. This includes the calibration and configuration data, as well as the product, transaction and other operator entered data. USE THIS FEATURE WITH EXTREME CAUTION.

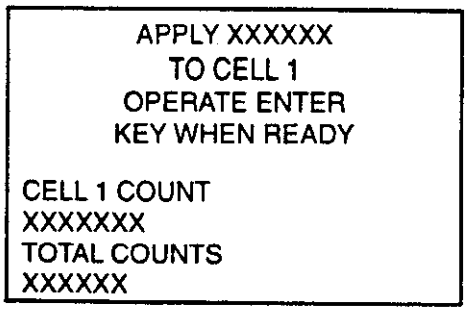
7.2 Special Functions

7.2.1 SPAN CORNERS

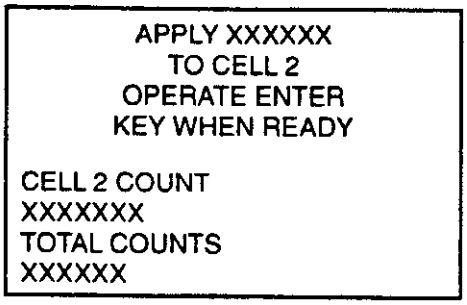
When this option is selected, the display will show:

UNLOAD SCALE
OPERATE ENTER
KEY WHEN READY
OPERATE ANY
OTHER KEY
TO EXIT
TOTAL COUNT
XXXXXX

Remove all of the weight from the scale and press the ENTER key. The display will show:



Place the weight shown in the display DIRECTLY over load cell 1. The Cell 1 counts and the total counts should be about the same. If they are not, move the weight so that it is more directly over the cell. When the two numbers are about the same, press the ENTER key. The display will show:



Repeat the process for load cell 2. When ENTER is pressed again, the display will move to cell 3. Repeat the process of all of the load cells

7.2.2 HYSTERESIS

NOTE
In most applications, this step will not be used. All of the settings should be "0". Contact Technical Services before attempting any hysteresis corrections.

HYSTERESIS
The difference between two indicated or represented values for any given test load, one obtained by increasing the loading from zero to the given test load, the other obtained by decreasing the loading from the maximum rated load to the given test load.

UPPER
The weight value at which the correction factor will be entered into the calculation, when un-loading the scale.

BACKLASH
The weight value equal to the test weight increment plus the impact over-run caused by putting the test weight on the scale.

LOWER
The weight value at which the correction factor is dropped from the calculation when coming down.

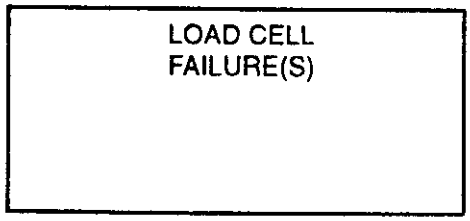
HYSTERESIS
The correction value to be added or subtracted from the UPPER weigh value.

+/-
The sign, "+" to add, or"-" to subtract the HYSTERESIS value from the UPPER weight value.

SECTION 8:
DIAGNOSTICS

8.1 Load Cell Failure

If the following message appears in the display, check the load cell wiring.



This message is triggered by one of several conditions. If this is the initial installation, check for broken load cell wires or electronics problems in the Quad Multiplexer Box.

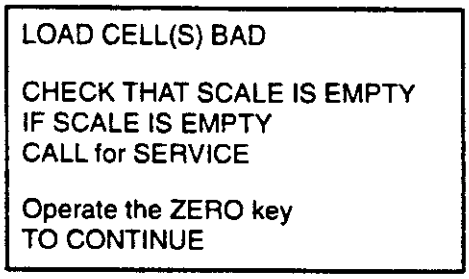
For more information about the LOAD CELL FAILURE(S):

1. Press the MENU key. The display will show the OPERATION MENU.
2. Select the SERVICE MENU from the OPERATION MENU.
3. In the SERVICE MENU, select CELL OUTPUT (COUNTS).
4. The display will show the load cells, the calibration counts and the current counts. Any load cells that are deemed "bad" will be highlighted.

8.2 Quad Multiplexer Box Failure

At the time of installation, if the Quad Multiplexer Box is miswired, it will not communicate with the indicator and the cells will be listed as "NONE" in the display.

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



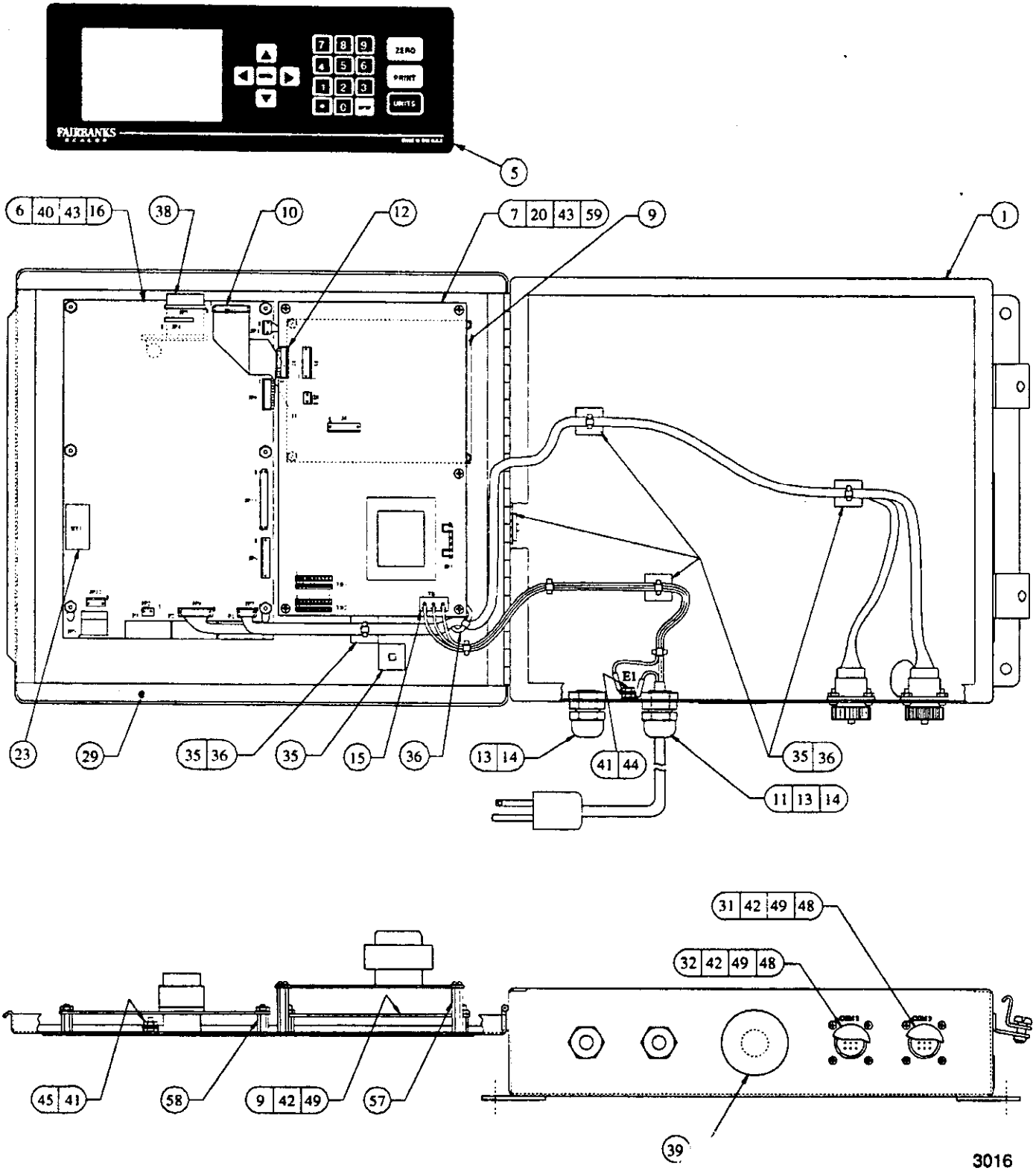
This message indicates that something has happened to the scale and the weight being seen by the indicator is outside the allowed zero reference.

SECTION 9:
PARTS LIST

9.1 IND-HR2500-Q1 Parts List

Item #	Part #	Description
1	4-61474-1	Box Assembly
5	4-59556-1	Keyboard, Instrument
6	2-59518-1	PCB Assembly, Mother Board
7	2-61302-1	PCB Assembly, QMB Interface
9	3-59613-1	Display Assembly
10	2-59517-1	Cable Assembly, Display
11	2-61346-1	Power Cord Assembly
12	2-59612-1	Cable Assembly
13	1-51220-1	Gasket
14	737103	Connector, Liquid Tight
15	733177	Block terminal Plug 3 Pos
16	2-61481-1	Prom Kit
20	2-61482-1	Prom Kit
23	1-58461-1	Battery, Lithium 3.5V
29	1-91370-1	Gasket
31	3-61349-1	Cable Assembly, RS232 Output
32	3-61350-1	Cable Assembly, RS232 Output
35	870067	Mount-Cable Tie
36	870047	Tie-Wire
37	870078	Clamp, Cable, Flat
39	1-58769-1	Label, Hole Seal
40	6A15741-6	Nut, Hex, 6-32
41	6A15741-10	Nut, Hex, 8-32
42	6A22237-6	Washer, Lock, Ext Tooth No. 4
43	6A22237-5	Washer, Lock, Ext Tooth No. 6
44	6A22237-1	Washer, Lock, Ext Tooth No. 8
45	6A17790-11	Washer, Plain No.8
48	6A18076-24	Screw, Mach PH Phil 4-40 x .38
49	6A15741-15	Nut, Hex 4-40
57	1-43696-4	Spacer, Hex (SST) 6-32 Thds. x 1.25 lg.
58	1-43696-8	Spacer, Hex (SST) 6-32 Thds. x .50 lg.
59	6A18076-29	Screw, Mach PH Phil 6-32 x .25

Parts Diagram



APPENDIX I: PROGRAMMING REFERENCE CHART

A. OPERATION MENU

1. TIME AND DATE
    a. TIME hh:mm
    b. AM
    c. PM
    d. DATE mm-dd-yy
2. TICKET NUMBER
3. KEYBOARD TARE
4. AUTOTARE
5. MODEM SERVICE
    1) OPERATION MENU
    2) INITIALIZE MODEM
    3) BAUD SELECT
    4) TELEPHONE
    5) DIAL
    6) REDIAL
    7) HANGUP
    8) COMPORT ENABLED
    9) MODEM COMMAND
6. CONFIGURATION MENU
7. SERVICE MENU

B. CONFIGURATION MENU

1. OPERATIONS MENU
2. KEYBOARD TARE
3. AUTOTARE
4. SELECT SCALE
    a. CONFIGURATION MENU
    b. INBOUND SCALE
    c. OUTBOUND SCALE
    d. SELECT SCALE
5. TITLE
    a. CONFIGURATION MENU
    b. TITLE LINE 1
    c. TITLE LINE 2
    d. TITLE LINE 3
    e. TITLE LINE 4
    f. TITLE LINE 5
6. FIELD NAME
    a. MENU PROMPT
    b. FIELD NAME 1 GTN IN OUT
    c. FIELD NAME 2 GTN IN OUT
    d. FIELD NAME 3 GTN IN OUT
    e. FIELD NAME 4 GTN IN OUT
    f. FIELD NAME 5 GTN IN OUT
    g. FIELD NAME 6 GTN IN OUT
    h. FIELD NAME 7 GTN IN OUT
7. PRODUCT ID

8. PRODUCT*TARE*PROMPT
    a. CONFIGURATION MENU
        PRODUCT
        MAIL
        PRODUCT
        AUXILLARY
9. REPORTS
    a. CONFIGURATION MENU
    b. REPORT GENERATOR 1
    c. TRANSACTION REPORT 1
    d. REPORT GENERATOR 2
    e. TRANSACTION REPORT 2
    f. DELETE TRANSACTIONS
    g. TARE REPORT
    h. INCOMPLETE REPORT
    i. VIEW INCOMPLETE
    j. VIEW TARE
    k. VIEW PRODUCT
    l. VIEW MAIL
10. DISPLAY CONTRAST
11. AUDIBLE ALARM
12. LOAD CELL DIAGNOSTICS
13. 4 TO 20 mA SETUP
    a. CONFIGURATION MENU
    b. MAXIMUM WEIGHT
    c. ADJUST SPAN 20 mA
    d. MINIMUM WEIGHT
    e. ADJUST ZERO 4mA
    f. MODE (GROSS/NET)
14. COMMUNICATION PORTS
    a. CONFIGURATION MENU
    b. COM PORT
    c. DEVICES
        1) COMMUNICATIONS MENU
        2) COM PORT
        3) CTS RTS CONTROL
        4) TICKET PRINTER 50-3925
        5) TICKET PRINTER 50-3930
        6) TAPE PRINTER 50-3710 / 3715
        7) FORM PRINTER 50-3921
        8) CUSTOM DRIVER
        9) COMPUTER (PC)
            a) <SETUP MENU>
            b) CONTINUOUS
            c) DEMAND
            d) AUTO
            e) CHECKSUM
    d. DEFAULT FORMAT
    e. INBOUND FORMAT
        1) COMMUNICATIONS MENU
        2) TICKET LOCATION FORMAT
    f. OUTBOUND FORMAT
        1) COMMUNICATIONS MENU
        2) TICKET LOCATION FORMAT
    g. GROSS*TARE*NET FORMAT
        1) COMMUNICATIONS MENU
        2) TICKET LOCATION FORMAT

h. BAUD SELECTION
i. INVERSE PRINT
    1) COMMUNICATIONS MENU
    2) INVERT IN
    3) INVERT OUT
    4) INVERT GTN
j. ENLARGED CHARACTERS
    1) COMMUNICATIONS MENU
    2) LARGE IN
    3) LARGE OUT
    4) LARGE GTN
k. FORM SIZE
    1) COMMUNICATIONS MENU
    2) COM 2
    3) COM 3
    4) COM 4
    5) COM 5
l. REMOTE DISPLAY
    1) COMMUNICATIONS MENU
    2) LAMPBANK
    3) CONTINUOUS GROSS WEIGHT
    4) GROSS ON PRINT
    5) TIME OUTPUT

C. SERVICE MENU

1. OPERATION MENU
2. OPERATING MODE
    a. MENU
    b. DATA TERMINAL
    c. WEIGHT ONLY
3. UPDATE RATE
4. ZERO MODE
    a. MENU
    b. 2% OF CAPACITY
    c. 100% OF CAPACITY
    d. ZERO SWITCH DISABLED
    e. PRINT INHIBIT
5. TARE MODE
    a. MENU
    b. ENABLE TARE
    c. DISABLE TARE (GROSS ONLY)
    d. AUTO CLEAR
    e. EXPIRATION (DAYS)
6. NUMBER SCALES
7. CELL OUTPUT (COUNTS)
8. CALIBRATION
    a. SCALE ID
    b. SCALE UNITS
        1) MENU
        2) lb
        3) TONS
        4) kg
        5) Tonne
        6) lb/kg
        7) kg/lb
        8) lb/TON
        9) TON/lb
        10) kg/Tonne

11) Tonne/kg
12) TON/Tonne
13) Tonne/TON

c. DIVISION SIZE

50	20	10
5	2	1
0.5	0.2	0.1
0.05	0.02	0.01
0.005	0.002	0.001
DUAL RANGE	MENU	

d. MOTION BAND
1) MENU
2) 0.5d
3) 1.0d
4) 2.0d
5) 3.0d

e. AUTO ZERO TRACKING BAND
1) MENU
2) 0.5d
3) 1.0d
4) 2.0d
5) 3.0d
6) OFF

f. FILTER FACTOR
1) MENU
2) HEAVY
3) HEAVY-MEDIUM
4) MEDIUM
5) MEDIUM-LIGHT
6) LIGHT
7) OFF

g. FIRST CELL ID
h. LAST CELL ID
i. CELL CAPACITY
1) MENU
2) CAPACITY
3) lb
4) ton
5) kg
6) tonne
7) Newtons

j. SCALE CAPACITY
k. TEST LOAD
l. CELL SENSITIVITY
1) CELL
2) SENSITIVITY
3) RESISTANCE
4) CALIBRATE

m. SPAN
1) TEST LOAD
2) TARE WEIGHT

n. TRIM
1) MENU
2) TRIM CELL
3) TRIM SECTION
4) TRIM SCALE
5) ADJUST

7. WRITE PASSWORD
8. PRINT CALIBRATION REPORT
9. SPECIAL FUNCTIONS
    a. SERVICE MENU
    b. SPAN CORNERS
    c. HYSTERESIS
        1) MENU
        2) UPPER
        3) BACKLASH
        4) LOWER
        5) HYSTERESIS
        6) +/-
    d. TELEPHONE #
    e. CLEAR ALL MEMORY

APPENDIX II: 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	SENSITIVITY 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

INBOUND TICKET	COM2	COM3
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
AUXILLARY TARE	0.0, 0.0	0.0, 0.0
AUXILLARY 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
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

OUTBOUND TICKET	COM2	COM3
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
AUXILLARY TARE	0.0, 0.0	0.0, 0.0
AUXILLARY 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

GROSS*TARE*NET	COM2	COM3
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
AUXILLARY TARE	0.0, 0.0	0.0, 0.0
AUXILLARY 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 III: INTERFACE TO PRINTERS & REMOTE DISPLAYS

A. Interface Section: Printers

Printers: 50-3710, 50-3921, 50-3925, 50-3715 & 50-3930

1. 50-3710 - Citizen Tape Printer:

The following provides the switch settings for the Citizens printer when interfaced to the IND-R2500. Use the printer handbook in conjunction with this table to set up the printer. To interface this printer to the IND-R2500 use cable Accessory #331.

Function	7 Position Switch DIP Switch S2 - Switch #:						
	1	2	3	4	5	6	7
Transmission Speed 1200 BPS	OFF	OFF	OFF	ON	OFF	OFF	OFF

Function	10 Position Switch DIP Switch S1 - Switch #:									
	1	2	3	4	5	6	7	8	9	10
8 Data Bits	OFF	OFF								
Parity Check: None			ON							
Parity: Odd				ON						
Stop Bits:1					ON					
RS232: Enabled						ON				
TTL Level: Disabled							OFF			
20mA LOP: Disabled								OFF		
Character Pose: 0									OFF	
575R,575L (40 Column)										OFF

* IND-R2500 Setup: 1200 8 1 None

2. 50-3921 - Okidata Printer Turbo 184:

The following provides the switch settings for the Okidata Printer Turbo 184 when interfaced to the IND-R2500. Use the printer handbook in conjunction with this table to locate the switches. To interface this printer use Accessory #336 cable.

Function	Switch Block On Controller PCB/Switch #:							
	1	2	3	4	5	6	7	8
ASCII/Slashed 0	OFF	OFF	OFF					
Form Length: 11"				OFF	ON			
Auto Line Feed/OFF						OFF		
8 Data Bits							ON	
Front Panel Enabled								OFF

Super speed serial board switches:

Function	Switch Block #1 Switch #:							
	1	2	3	4	5	6	7	8
Odd Parity	ON							
No Parity		ON						
8 Data Bits			ON					
X-ON/OFF Protocol				OFF				
Test Select: Circuit					ON			
Mode Select: Print						ON		
Busy Line Select: "DTR"							ON	ON

Function	Switch Block #2 Switch #:							
	1	2	3	4	5	6	7	8
9600 Baud	OFF	ON	ON					
DSR: Inactive				OFF				
Buffer: 256 Byte					OFF			
Busy Timing: 200MS						ON		
DTR: Space							ON	
After Power ON Not Used								OFF

3. 50-3925 - Document Printer

The following provides the switch settings for the 3925 Ticket printer. Use the printer manual in conjunction with this table. The cable Accessory #1254 is required to interface this to the IND-R2500-Q1.

Function	Switch Block Located On Bottom of Printer Switch #:								
	1	2	3	4	5	6	7	8	9
2400 BPS	OFF	ON	ON						
4 Lines Per Inch				ON					
Line Space Setting					ON				
Print Line and Line Feed						OFF			
Normal Print Mode							ON		
Polarity of Busy (Low)								OFF	
Top of Form Busy									ON

These settings reflect printer setup using the Fairbanks Catalog 083620 Ticket. They are the settings used if the default mode is selected in the IND-R2500-Q1.

4. 50-3715 - Citizen Tape Printer

DS1	DS2
6 ON	2, 7 ON

* Use the 50-3710 driver for devices which do not state a 50-3715 driver

5. **50-3930 Ticket Printer**

1, 2, 3, 6, 8 ON

B. Interface Section: Remote Displays

> *NOTE:*
> *When connecting a remote display to a IND-R2500, use DIS.*

1. **Fairbanks Model 1405 Remote Display**
   Order Accessory Kit #1266 Connector Kit.
   Order Accessory Cable #1160 (by the foot).

   Wire the cable as follows:

P3 on the Mother Board IND-R2500, DB9 Connector	1405 Terminal
Pin 1	1
Pin 9	2

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 #1256 Connector Kit.

   Wire the cable as follows:

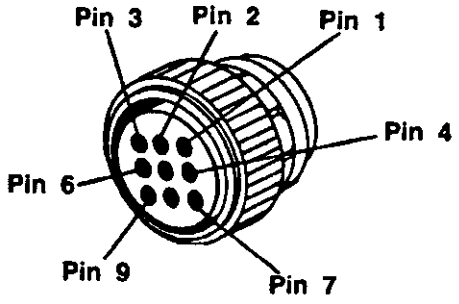
P3 on the Mother Board IND-R2500, DB9 Connector	1415 Terminal
Pin 1	2
Pin 9	3

3. **Fairbanks RMT-140X Series**

   Wire the cable as follows:

P3 on the Mother Board IND-R2500, DB9 Connector	Display Terminal
9 (+)	+15VDC (Pin 1)
1 (–)	(C Loop) Pin 5 ┐ Jumper (C Loop) Pin 6 ┘
	(GND) Pin 2

APPENDIX IV: COMPORTS PIN OUT, HR2500-Q1



9-Pin Connector

2433

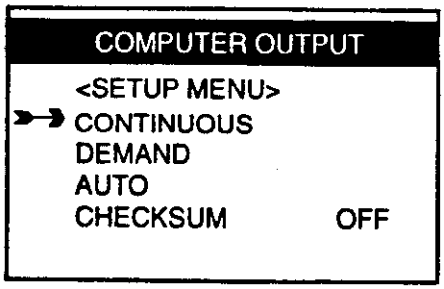
CABLE END CONNECTOR

P3 on the Mother Board	COM 2	COM 3
Pin 1 - (+)	Pin 1 - DCD (INPUT)	Pin 1 - NC
Pin 2 - (–)	Pin 2 - DSR (INPUT)	Pin 2 - RX (INPUT)
Pin 3 - GND	Pin 3 - DTR (OUTPUT)	Pin 3 - TX (OUTPUT)
Pin 4 - NC	Pin 4 - TX (INPUT)	Pin 4 - TX (INPUT)
Pin 5 - NC	Pin 5 - RX (OUTPUT)	Pin 5 - RX (OUTPUT)
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	50-3710 / 3715	50-3925	50-3921 / 3930
Pin 5 - RX			Pin 2
Pin 4 - TX	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 #3-58751-1	Part #3-56343-1	Part #3-58750-1

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



<SETUP MENU>
This selection will return to the DEVICES MENU Subsection 6.14.1.

CONTINUOUS
Selects Continuous Computer Output Mode. The Demand output is an output that is transmitted when the IND-R2500 instrument receives a CR (Carriage Return character (0DH)) from a computer.

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

CHECKSUM
This selection is a toggle ON / OFF. It controls whether a Checksum character is sent at the end of the computer output.

The second line of the menu shows the current Output Mode that is 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 a CR (Carriage Return character (0D Hex) 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) or	: Gross Weight (with legend)	: GROSS
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) or	: Tare Weight (with legend)	: TARE
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) or	: Net Weight (with legend)	: NET
xxxxxxx_yy CR LF (x = Weight, y = Units : fixed length, 10 characters)	: Net Weight (no legend)	: NET
xx:xxyy 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_xxxxxxxx CR LF (TICKET_NUMBER_ = Legend : fixed length, 14 characters) (x = Ticket Number Value : variable length, 8 characters max)	: Ticket Number	: CON#
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx CR LF	: Title Line 1	: TITLE1
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx CR LF	: Title Line 2	: TITLE2
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx CR LF	: Title Line 3	: TITLE3
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx CR LF	: Title Line 4	: TITLE4
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx CR LF (x = Title Line Text : variable length, 30 characters max)	: Title Line 5	: TITLE5
xxxxxxxxxxxxxxx_yyyyyyyyyyyyyyy CR LF	: Field Name 1	: fNAME1
xxxxxxxxxxxxxxx_yyyyyyyyyyyyyyy CR LF	: Field Name 2	: fNAME2
xxxxxxxxxxxxxxx_yyyyyyyyyyyyyyy CR LF	: Field Name 3	: fNAME3
xxxxxxxxxxxxxxx_yyyyyyyyyyyyyyy CR LF	: Field Name 4	: fNAME4
xxxxxxxxxxxxxxx_yyyyyyyyyyyyyyy CR LF	: Field Name 5	: fNAME5
xxxxxxxxxxxxxxx_yyyyyyyyyyyyyyy CR LF	: Field Name 6	: fNAME6
xxxxxxxxxxxxxxx_yyyyyyyyyyyyyyy CR LF (x = Field Name Title : variable length, 15 characters max) (_ = Space Character) (y = Field Name Entry : variable length, 15 characters max)	: Field Name 7	: fNAME7
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) or	: Gross Weight (with legend)	: GROSS
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) or	: Tare Weight (with legend)	: TARE
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) or	: Net Weight (with legend)	: NET
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) or	: Inbound Weight (with legend)	: WT. IN
xxxxxxx_yy CR LF (x = Weight, y = Units : fixed length, 10 characters)	: Inbound Weight (no legend)	: WT. IN
TARE_ID_xxxxxxxxxxxxxx CR LF (TARE_ID_ = Legend : fixed length, 9 characters) (x = Tare ID Value : variable length, 15 characters max)	: Tare ID	: TR. ID
xx:xxyy 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:xxyy CR LF (TIME_IN_ = Legend : fixed length, 8 characters) (x = Time, y = am pm : fixed length, 7 characters)	: Inbound Time	TM IN
TICKET_NUMBER_xxxxxxxx CR LF (TICKET_NUMBER_ = Legend : fixed length, 14 characters) (x = Ticket Number Value : variable length, 8 characters max)	: Ticket Number	: CON#
xxxxxxxxxxxxxx__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
xxxxxxxxxxxxxx_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)		
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx CR LF xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx CR LF xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx CR LF xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx CR LF xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx CR LF (x = Title Line Text : variable length, 30 characters max)	: Title Line 1 : Title Line 2 : Title Line 3 : Title Line 4 : Title Line 5	: TITLE1 : TITLE2 : TITLE3 : TITLE4 : TITLE5
xxxxxxxxxxxxxxx_yyyyyyyyyyyyyyy CR LF xxxxxxxxxxxxxxx_yyyyyyyyyyyyyyy CR LF xxxxxxxxxxxxxxx_yyyyyyyyyyyyyyy CR LF xxxxxxxxxxxxxxx_yyyyyyyyyyyyyyy CR LF xxxxxxxxxxxxxxx_yyyyyyyyyyyyyyy CR LF xxxxxxxxxxxxxxx_yyyyyyyyyyyyyyy CR LF xxxxxxxxxxxxxxx_yyyyyyyyyyyyyyy CR LF (x = Field Name Title : variable length, 15 characters max) (_ = Space Character) (y = Field Name Entry : variable length, 15 characters max)	: Field Name 1 : Field Name 2 : Field Name 3 : Field Name 4 : Field Name 5 : Field Name 6 : Field Name 7	: fNAME1 : fNAME2 : fNAME3 : fNAME4 : fNAME5 : fNAME6 : fNAME7
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.

Menu Prompt	Description
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.

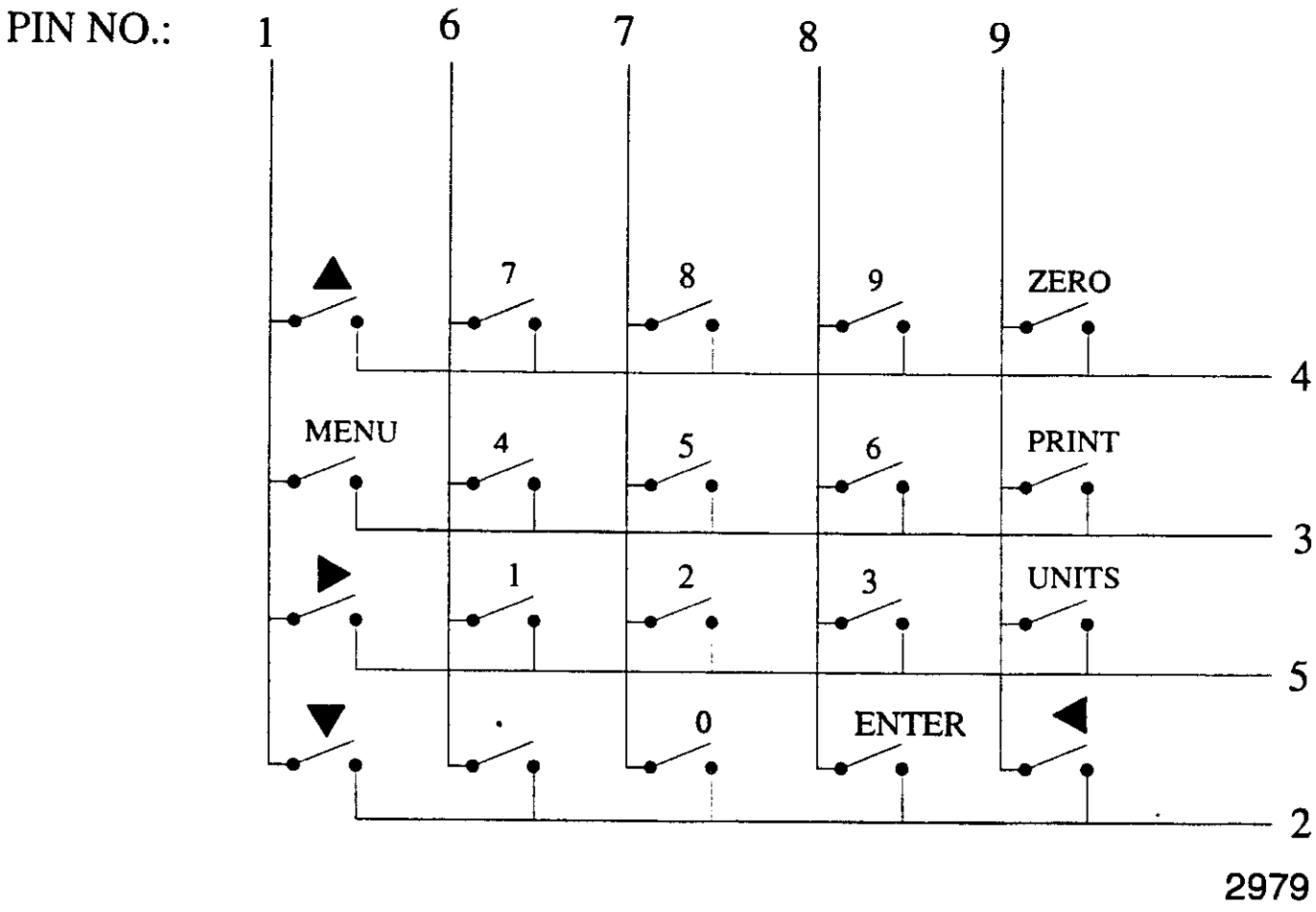
Menu Prompt	Description
GROSS	Gross Wt
TARE	Tare Wt
NET	Net Wt
WT. IN	Inbound Wt
TR. ID	Tare ID
TIME	Time
DATE	Date
TM IN	Time In
CON#	Ticket Nbr
HEADER	Header
TOTAL	Total for Header
TITLE1	Title Line 1
TITLE2	Title Line 2
TITLE3	Title Line 3
TITLE4	Title Line 4
TITLE5	Title Line 5
fNAME1	field Name 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.

Menu Prompt	Description
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 VI: SCHEMATIC



FAIRBANKS SCALES

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