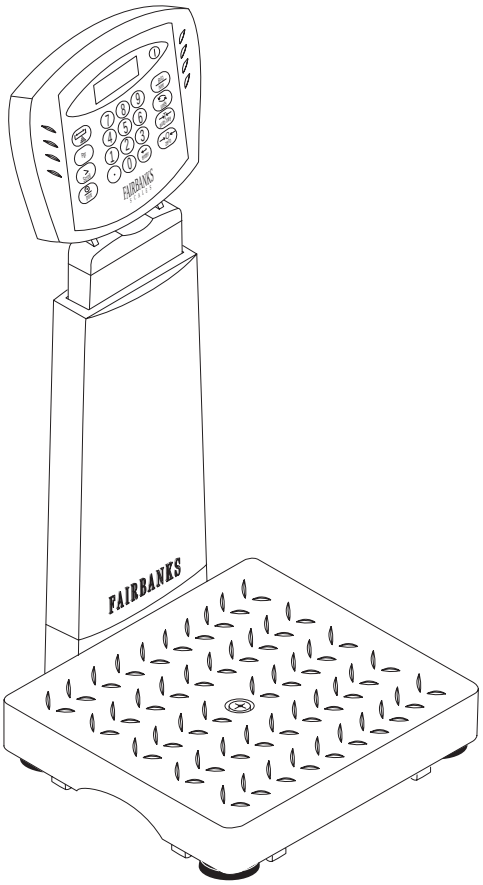
Operators Manual

ONYX™ Series

General Purpose Bench Scale

Model: 6000



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Issue #1 3/00

Amendment Record

ONYX™ Series

Models: 18899,19810,18900,18901,18902,19816

Manual # 50562

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

Created 3/00

Issue #1 3/00

Table of Contents

Models and Accessories:

Model	Size	Capacity	Description
18899	12” x 12”	6 lb	Platform only
19810	12” x 12”	12 lb	Platform only
18900	12” x 12”	25 lb	Platform only
18901	14” x 14”	60 lb	Platform only
18902	14” x 14”	100 lb	Platform only
19816	14” x 14”	150 lb	Platform only

Accessory	Size	Capacity	Description
20377	12” x 12”	All	Stainless Steel Platform Cover
20378	14” x 14”	All	Stainless Steel Platform Cover
20381	14” x 14”	100,150 lb	Roll Top Conveyor
20890	All	All	Extension Cable, 10', Platform to Display Indicator
20314	All	All	Indicator Keypad Spill Covers (1)
20384	All	All	Indicator Keypad Spill Covers (pkg 10)
21133	All	All	Cable for "On-Line Pro"

Accessory	Size	Capacity	Indicator w/ Pillar Kit
19807	All	All	Indicator, Short pillar kit
19672	All	All	Indicator ONLY for Wall or Desk mount

Section 1: Introduction

The Onyx™ bench scale is constructed of a thermoplastic polyester resin composite material and has capacities from 6 lbs to 150 lbs. The intended usage is as a general purpose scale in non-washdown applications.

WARNING: State Weights and Measures agencies will NOT accept ANY scale as a commercial weighing device until it has been "placed in service" by a licensed scale technician / agency. For commercial applications, please call our National Dispatch @ 1-800-332-1123

Section 2: Description

The Onyx™ bench scale is available in 12" x 12” or 14" x 14” . The base has unique "hand-holds" for picking up and moving the base assembly easily. The display can be ordered with wall-mount, desk-mount or pillar. The pillar height is adjustable for easy viewing. The user can choose the method of powering the scale with AC power, or battery-power by using 6 "D" cells (pillar mount only) housed in the column. The system consists of four (4) wing beam load cells per platform combined with four A-D circuits, offering superior accuracy. The A-D electronics are encased in a 'Pod' within the platform structure for protection and ease of maintenance. All units have built-in counting scale and over/under features. An RS-232 output for a wide range of Fairbanks printers and computers is factory installed.

A. Certification: NTEP CoC 99-197 (12/99)
CWM **PENDING**

B. Specifications:

1. **Minimum division sizes for commercial applications:**

Model	Size	Capacity	lb	oz	kg	g
18899	12" x 12"	6 lb	6 x .002	96 x .05	2.72 x .001	2720 x 1
19810	12" x 12"	12 lb	12 x .005	192 x .1	5.44 x .002	5440 x 2
18900	12” x 12"	25 lb	25 x .01	400 x .2	10.88 x .005	11300 x 5
18901	14” x 14"	60 lb	60 x .02	960 x .5	27.12 x .01	27150 x 10
18902	14" x 14"	100 lb	100 x .05	1600 x .5	45.40 x .02	45400 x 20
19816	14” x 14"	150 lb	150 x .05	2400 x 1	68 x .02	68000 x 20

2. **Construction:** Thermoplastic Polyester Resin, modular

3. **Overload protection:** 300% of scale capacity

4. **Environmental:** Humidity, 0-90%
Temperature, -10ºC to +40ºC

5. **Power:**
   AC: There must not be more than 0.2 vac between AC neutral and ground. For proper performance, the ground should have no more than 3.0 ohms resistance to true earth ground.
   117 or 220 VAC, 50-60 Hz +/- 2Hz
   NOTE: ***For 220VAC operation, see 220V Option*, this page***
   DC: 6 user replaceable "D" cell batteries

6. **Battery Life:** 50+ hours average using “off the shelf” Alkaline batteries

7. **Power failure protection:** Calibration and program data is protected during power loss

8. **Display:** Backlit 0.45", 6 digit LCD with indicators

9. **Center-of-Zero:** Active when scale is stable within ¼ division of zero

10. **Zero:** Programmable 2% or 100%

11. **Units:** Front panel selectable lbs., kgs., oz., g, lbs-oz

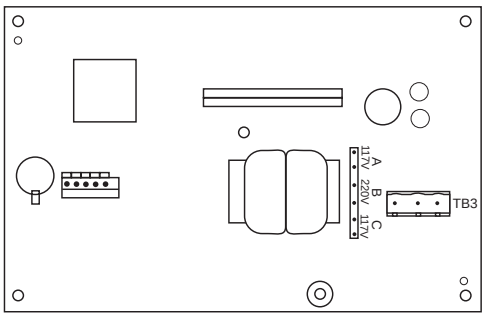
12. **Rounding:** Nearest division (per Handbook 44).

13. **Counting:** Counting program included, can be programmed ON or OFF

14. **Check Weighing:** Graphic display for Over/Under program included, can be programmed ON or OFF

***** 220V Option: Units are shipped with jumpers in place for 117VAC operation unless 220V option is requested at order entry. To change from 117V to 220V:

- Ensure unit is NOT powered.
- Remove all indicator screws, cover, and and cable connectors.
- Locate JP1 (see drawing), REMOVE JP1 jumpers at positions “A” & “C”
- Place 1 of the jumpers on JP1 position “B”, marked “B 220V”
- Plug all connectors into the PCB, screw case together using these torques (4+2/-0 inch lbs.)
- Replace AC plug, change serial label to reflect 220V operation.



Important: *Save all shipping cartons for future use. In the unlikely event this unit needs factory service, a correctly packed, and labeled scale in the original carton will assure a prompt repair and return.*

C. Peripherals:

The Onyx™ is designed to operate Fairbanks' equipment and interface to computers through a single, programmable RS232 port.

RS-232 features:

- Adjustable Baud Rate
- Adjustable Parity
- Adjustable Stop Bits
- Adjustable Data Bits
- Continuous / Demand / Polled
- Compatible with UPS "Online Pro" software

Tape Printer:

3550 Series Tape Printer (20481)

Label Printer:

PTR-2642 Label / Barcode Printer (19869)

Ticket Printer(s):

PTR-3950	(15733)
PTR-3960	(15737)
610	(19455)

Form Printer:

50-3921 (14322)

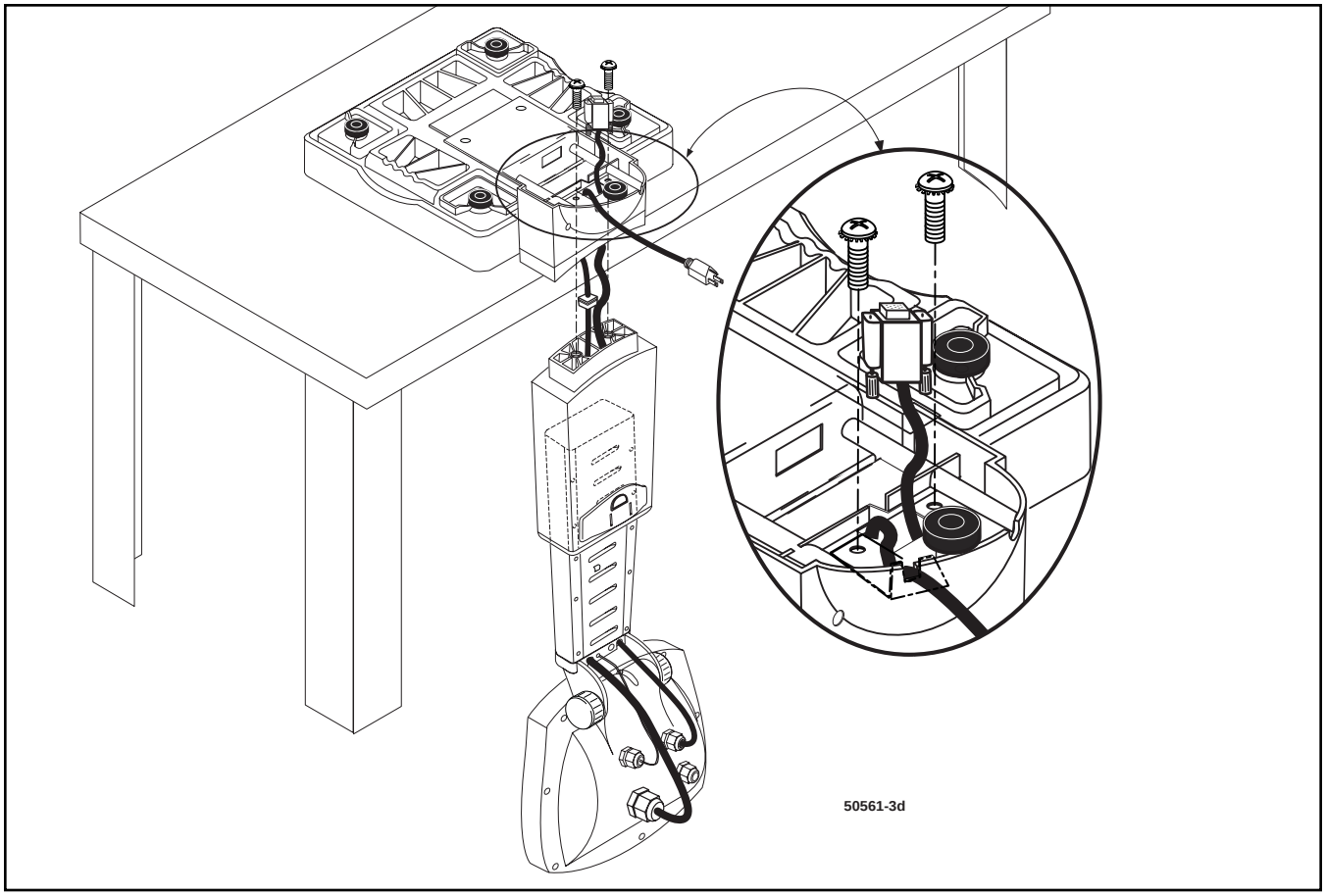
Generic:

Computer
Printers

Section 3 : Installation

A. The Onyx™ with short or tall pillar:

1. Place the base assembly UPSIDE down (feet UP) on a solid workplace with the pillar mounting tab over the edge.



2. With the scale display facing the platform, hold the pillar under the pillar mounting tab of the base, and feed the plugs and cables from the display up through the hole in the pillar tab of the base.

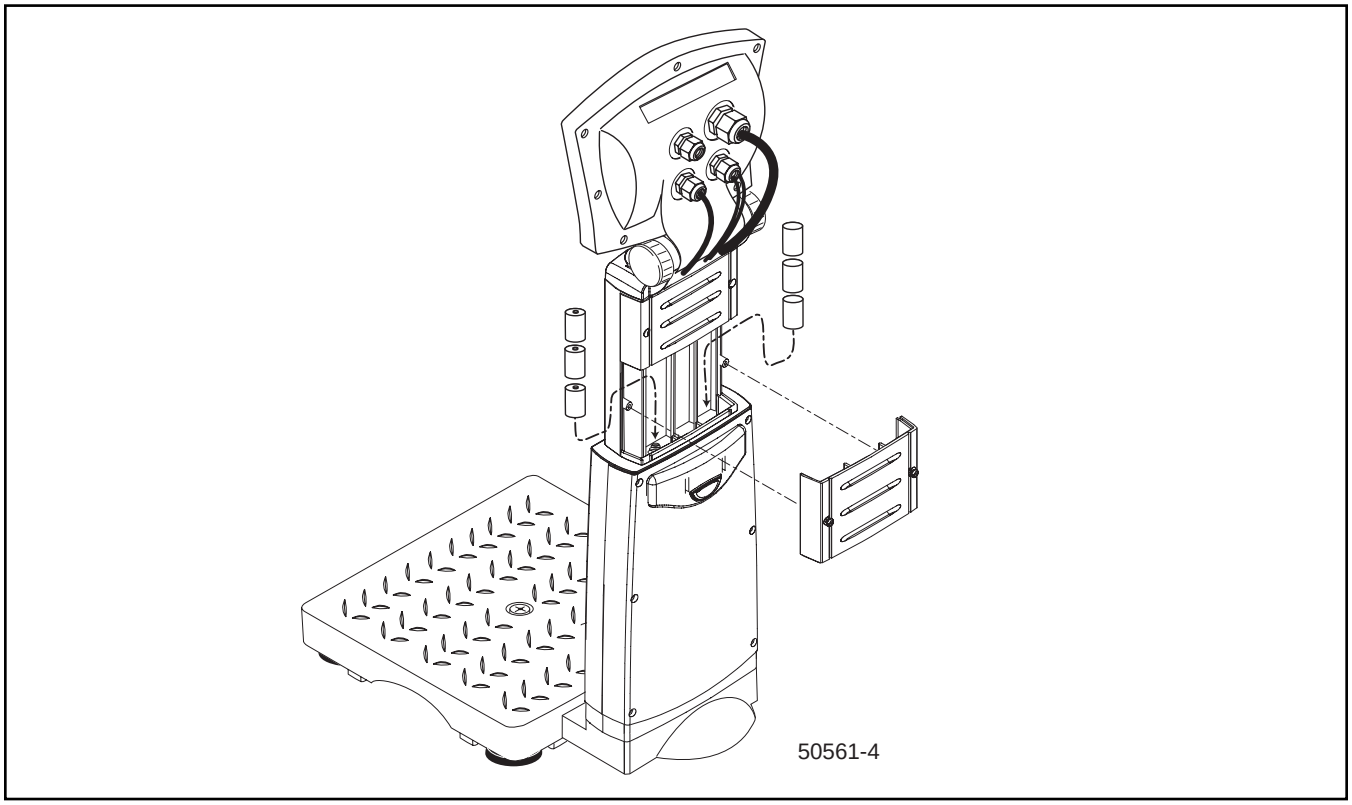
3. With the scale display facing the platform, use the two (2) included screws to fasten the pillar to the base. Ensure that the cables are not 'pinched' but do NOT tighten the screws.

4. Locate the small metal bracket, (enclosed in a manila envelope), remove the left pillar mounting screw (scale upside down, pillar facing you).

5. Place the bracket so the strain relief on the AC power cord “snaps” into it. The pillar screw will go through the small hole and fasten it and the pillar. Tighten both pillar mounting screws to 20, ±2 inch pounds. Mate the 9 pin connector from the display pillar with the 9 pin connector in the base, (see drawing on page 10). Tighten the small screws to secure the connection.

6. Place the assembly upright. Adjust the pillar to a convenient height by pressing the release on the back, sliding the pillar up, or down.
   Loosen the rounded knobs on either side of the instrument to tilt the display for optimal viewing, then snug, (hand-tighten only). Level the base using the adjustable feet and bubble level.

7. To use DC power (batteries), install as follows, using the diagram below:
   - Pressing the release and fully extending pillar to top-most position
   - Remove the middle cover that is now visible from the pillar, by loosening the screws (battery cover has 2 slot head screws).
   - Insert 3 "D" batteries on the left side (facing the back) with the (-) ends DOWN, and 3 "D" batteries on the right side (facing the back) with the (+) ends DOWN. Note: Insert the bottom battery, then the top , hold it, then the center battery.
   - Replace the battery cover and snug the screws.
   - The AC power cord may be coiled and tied for future use, or, cut away completely if you will use only battery power in the future.



Note: If the cord is cut away, this is NOT a warranty issue for future AC usage.

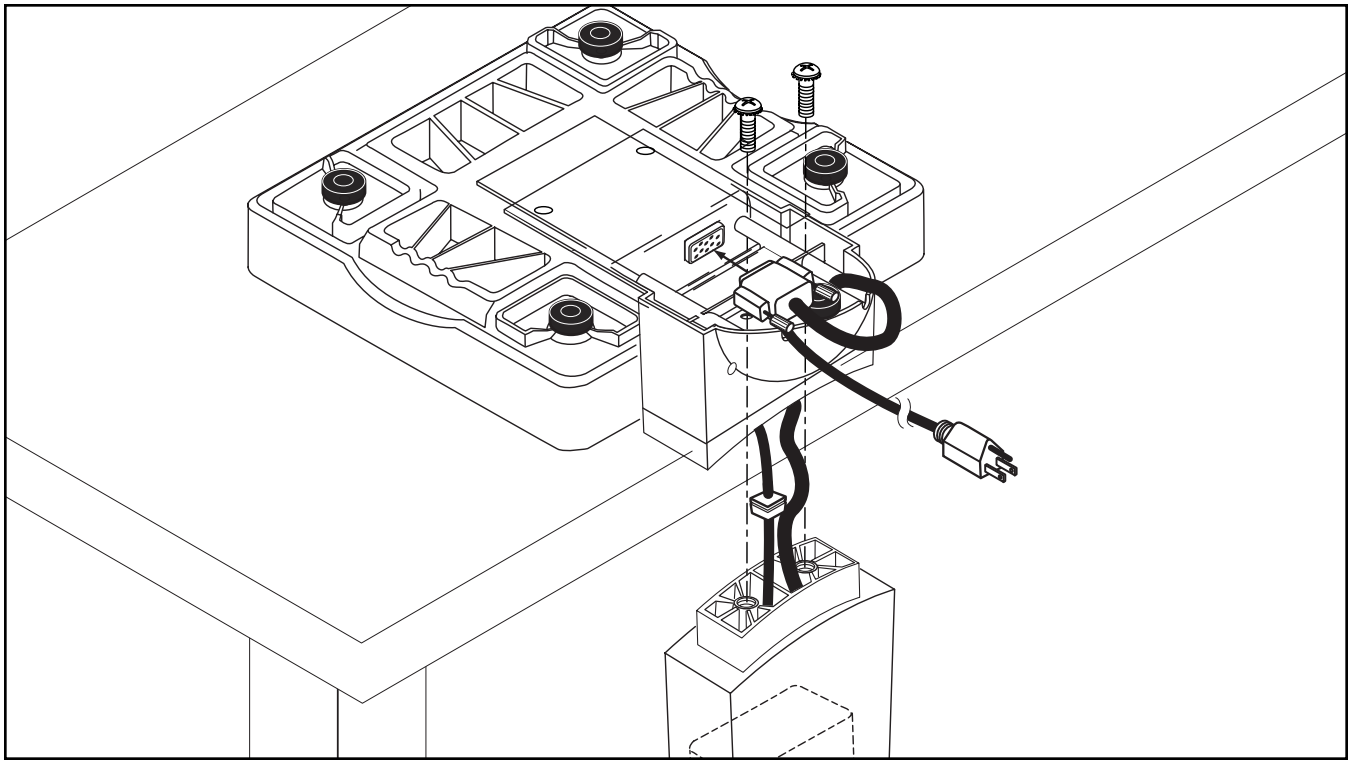
8. With scale base level, pillar cover in place, batteries inserted -or- AC power cord plugged into an outlet, and platform empty, press the ON/OFF key.

9. Display will cycle through an alpha-numeric display test then show 0.00 * (zero).

   * Scale display will show the weight on the platform (and may show a weight other than 0.00). Remove all weight from the platform and press ZERO to set scale to 0.00

B. Detached wall-mount, or desk-mount: display with separate platform

1. Use cable accessory 20890 to make the platform to display connection. Turn the platform up-side-down, then mate the 9 pin connector from the display pillar with the 9 pin connector in the base. Tighten the small screws on the connector to secure the connection. See the following Diagram # 50561-3e.



2. Place the platform on a solid, level work place where it will be used.

3. Mount the display mounting bracket (18207) to the wall, using the screws (be sure the bracket is level for best viewing). For desk-mount the bracket is screwed to a counter top, or left loose and set onto a surface.

4. Route cable 20890 from the display to the base so it is protected.

5. Loosen the knobs on either side of the instrument to tilt the display for optimal viewing, hand-tighten ONLY.

6. With scale base level, AC power cord plugged into an outlet, and platform empty, press the ON/OFF key.

7. Display will cycle through an alpha-numeric test display, then should show 0.00 * (zero).

   * If a display other than 0.00. Remove all weight from the platform and press ZERO to set scale to 0.00

Important: *Save all shipping cartons for future use. In the unlikely event this unit needs factory service, a correctly packed, and labeled scale in the original carton will assure a prompt repair and return.*

Section 4: Programming

Onyx™ programming is divided into menus. Each menu has entries that may be viewed, changed, and saved.

INFO:

set: display contrast
sleep time
show: audit counts
cell counts
print report

IO:

set: time
date
device
RS232 settings
items to be printed
autoprint

SETUP:

set: counting (pcwt)
checkweighing (o/u)
units
tares
filter
display rate

Special Key Functions: (Key definitions are explained in Section 5, Operation, page 16)

- **In the program mode, the GR/NT key aborts to the gross weigh mode**
- **In the program mode, pressing the Pgr key will return to the top of the present menu**
- **When entering data, any mode, pressing the decimal point (.) twice will clear the entry**

Passwords:

Passwords may be set for the protected menus:

CANNED
IO
SETUP
CAL

There may be 4 different numeric codes for different levels of access. Menu access will require the proper code to be entered to continue.

A. INFO menu:

- Press the **Pgr** key,
  the display will show "**INFO MENU**"

- Press **ENTER**,
  the display will show "**DISPLAY CONTRAST**"

- To darken the display:
  press the **APPLICATION** key until it is the desired contrast

- To lighten the display:
  press the **PRINT** key until it is the desired contrast

- Press **ENTER**,
  the display will show "**SLEEP TIME**"
  This is used for battery operation, the time represents the elapsed time of 'no weighing activity' before 'sleep' starts

- Enter the **time, in minutes,** (decimals for seconds), using the numeric keypad,
  press **ENTER**, 0 = Disabled, any other value enables 'sleep'.

- The display will show "**CONFIG AUDIT XX**",
  count of configurations performed,
  press **ENTER** (used by most regulatory agencies)

- The display will show "**CAL AUDIT XX**",
  count of the calibrations performed,
  press **ENTER** (used by most regulatory agencies)

- The display will show "**XXXX COUNTS CELL 1**",
  press **SCROLL** to view other cells' counts

- Press **ENTER**,
  the display will show "**REPORT hit PRINT**".
  Press **PRINT** to send the data to an installed device.

- Press **ENTER** to exit to the weigh mode.

B. IO Menu:

- Press the **Pgr** key,
  the display will show "**INFO MENU**" press **SCROLL** twice
- The display will show "**IO PASSWORD**"
  Enter the password (up to 6 digits),
  press **ENTER**

- The display will show "**TIME X:XX:XXAM**"
  To enter a **new time**:
  key in the **hour,** press the decimal (**.**) for the colon,
  key in the **minutes** and press **ENTER**.
  The display will show the entered time.
  Use **SCROLL** to set the AM / PM or, no legend for military time,
  press **ENTER**

- The display will show "**DATE XX-XX-XXXX**"
  To **set the date**,
  key in the **month**, press the decimal (**.**),
  key in the **day**, press the decimal (**.**), then key in the 4 digit year,
  press ENTER

- The display will show "**DEVICE: 3550**"
  Use **SCROLL** to view the list of devices: **3550, 3950, 3960, 610, 3921, 2642, 2642BARCD, GENERIC, CONTINUOUS, POLLED, ONLINEPRO**
- Press **ENTER** to accept selection of **DEVICE**

- The display will show "**STD SETTINGS:YES**",
  use **SCROLL** to change, press **ENTER**

- The display will show "**BAUDRATE: 9600**",
  use **SCROLL** to change, press **ENTER**

- The display will show "**DATA BITS: 8**",
  use **SCROLL** to change, press **ENTER**
- The display will show "**STOP BITS: 1**",
  use **SCROLL** to change, press **ENTER**

- The display will show "**PARITY: NONE**",
  use **SCROLL** to change, press **ENTER**

- The display will show "**PRINT TIME: YES**",
  use **SCROLL** to change, press **ENTER**

- The display will show "**PRINT DATE: YES**",
  use **SCROLL** to change, press **ENTER**

- The display will show "**PRINT GR TA NET**",
  use **SCROLL** to change, press **ENTER**

- The display will show "**PRINT ID: YES**",
  use **SCROLL** to change, press **ENTER**

- The display will show "**PRINT PIECES: YES**",
  use **SCROLL** to change, press **ENTER**

- The display will show "**PRINT PC WT: YES**",
  use **SCROLL** to change, press **ENTER**

- The display will show "**AUTO PRINT: NO**",
  use **SCROLL** to change, press **ENTER**

- The display will show "**PRINT SWT: YES**",
  use **SCROLL** to change, press **ENTER**

- The display will show "**SETUP PASSWORD**",
  press **ENTER** to continue to **SETUP**

- To exit programming press **B/G/NET**

Note 1: *When the "**DEVICE**" is selected, the "**STD SETTING**" will revert to the default serial setup for that device type. In the same menu, "**PRINT XXXX: YES**" will print the item while a "**NO**""will omit the item from the transmission to a printer or computer.*

Note 2: *"**AUTOPRINT**"" has a threshold of 10 divisions. That is, if the weight is at least 10 divisions, and stable, a print will occur. Before "**AUTOPRINT**" will print again, the weight must fall to less than half the weight display. Check the particular operation at the customer site for Autoprint usage.*

Note 3: *If "**AUTOPRINT**" is set to "**YES**", the next legend will be "**PRINT SWT: YES**". This means the print switch on the keypad is enabled. If set to "**NO**", the print switch is disabled.*

C. SETUP menu:

- Press the **Pgr** key,
  the display will show "**INFO MENU**", press **SCROLL** three times.

- The display will show "**SETUP PASSWORD**",
  Enter the password (up to 6 digits),
  press **ENTER**

- The display will show "**PIECE COUNT: YES**",
  use **SCROLL** to change, press **ENTER**

- The display will show "**OVER/UNDER: YES**",
  use **SCROLL** to change press **ENTER**

- The display will show "**ENABLE lb: YES**",
  use **SCROLL** to change press **ENTER**

- The display will show "**ENABLE kg: YES**",
  use **SCROLL** to change press **ENTER**

- The display will show "**ENABLE oz: NO**",
  use **SCROLL** to change press **ENTER**

- The display will show "**ENABLE g: NO**",
  use **SCROLL** to change press **ENTER**

- The display will show "**ENABLE lb-oz: NO**",
  use **SCROLL** to change press **ENTER**

- The display will show "**AUTOTARE: YES**",
  use **SCROLL** to change press **ENTER**

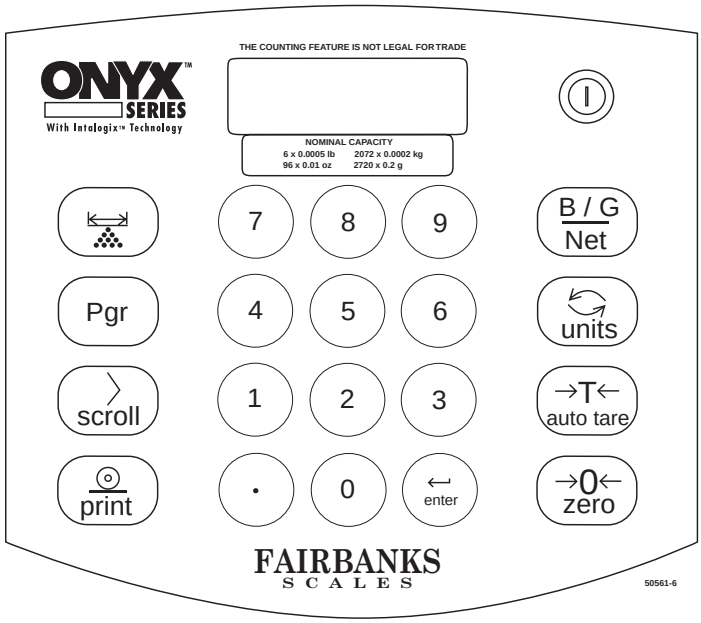
- The display will show "**KEYBD TARE: YES**",
  use **SCROLL** to change press **ENTER**

- The display will show "**FILTER: LIGHT**",
  use **SCROLL** to change press **ENTER**

- The display will show "**DISPLAY RATE: 0.3**" (minimum),
  use **NUMERIC** keys to change rate,
  press **ENTER** to continue into **CALIBRATION**

- To exit programming press **B/G/NET** key.

Section 5: Operation



A. Key Functions:

ON/OFF - Pressing this key will toggle the scale ON / OFF

APPLICATION KEY - Pressing this key toggles the scale operation mode from WEIGH -to- COUNTING -to- OVER/UNDER

Using the Application Key
In the INFO menu, with "DISPLAY INTENSITY" showing, pressing the Application key repeatedly will darken the display contrast.

Pgr

PROGRAM - Pgr - *In the **WEIGH** mode:* Press Pgr to enter PROGRAMMING
*In the **PROGRAM** mode:* Press Pgr to return to the first menu item
*In the **PCWT** mode:* Press Pgr to toggle SPL SIZE -to- PCWT
*In the **OVER/UNDER** mode:* Press Pgr to enter Target weights

scroll

SCROLL - *In the **WEIGH** mode:* Press scroll to prompt for ID
*In the **PROGRAM** mode:* Press scroll to view menus
*In the **PROGRAM** menus:* Press scroll to toggle through parameters
*In the **PCWT** mode:* Press scroll to toggle PCWT -to- SPL SIZE
*In the **OVER/UNDER** mode:* Press scroll to toggle contrast of the bar graph
*In **TARGET WEIGHT***: Press scroll to toggle SAMPLE TARGET WT

Using SCROLL for ID:

From the weighing mode, pressing SCROLL will toggle the ID legend ON / OFF. Pressing numeric keys 0-9 (up to six (6) digits) with the ID legend displayed, will enter an ID for a unique customer or container number.

Example: Press SCROLL to show ID legend, key in 55147, then press ENTER; 55147 is temporarily stored as an ID. ID can then be printed to identify a weighment. From the counting mode, press SCROLL to toggle between piece weight and the weight on the scale GR (gross or NET weight if a Tare is entered).

PRINT - Press print to send data to an installed printer

Using PRINT:

Pressing the PRINT key will cause weight data to be sent to an attached receiving device (set up in programming). In the INFO menu, with "DISPLAY INTENSITY" showing, pressing PRINT several times will lighten the display

GROSS/NET - *In the **WEIGH** mode:* Press to toggle GR -to- NET
*In the **PCWT** mode:* Press to toggle GR -to- NET
*In the **OVER/UNDER** mode:* Press to toggle GR -to- NET

Using B/G NET

Pressing the B/G NET key will toggle the display from GR (gross) to NET (net) modes of weighing. If a tare is entered, the tare will be active when NET is displayed. The TARE, or ID if selected, will be displayed on the same screen.

UNITS - *In the **WEIGH** mode:* Press to toggle through programmed units

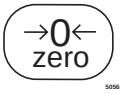
Using UNITS

Pressing the UNITS key will toggle through all units choices. When changing units, a different division size, and possibly different decimal places will be shown.

AUTOTARE - *In the **WEIGH** mode:* Press to show tare, autotare if enabled
*In the **PCWT** mode:* Press to autotare if enabled
*In the **OVER/UNDER** mode:* Press to autotare if enabled

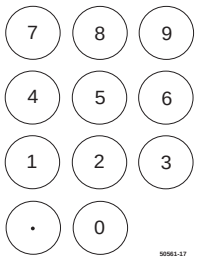
Using AUTOTARE and Tare function

With an empty container or object to be “tared” on the platform, press AUTO TARE, or, enter numeric weight value then press ENTER. The autotare or entered value becomes a stored TARE weight. The tare weight and net weight will be shown whenever the NET mode is entered (pressing B/G NET toggles between GR and NET). Enter "0", then ENTER to set a "0" tare.



ZERO - *In the **WEIGH** mode:* Press zero to set display to 0.00 while in GR mode
*In the **PCWT** mode*: Press to zero scale while in GR or NET mode
*In the **OVER/UNDER** mode:* Press to zero scale while in GR or NET mode

ENTER - *In the **WEIGH** mode:* Press enter to accept manually keyed tare weights
*In the **PROGRAM** mode:* Press enter to accept the displayed value
*In the **PCWT** mode:* Press to accept manually entered SPL SIZE
*In the **PCWT** mode:* Press to accept manually entered piece weight
*In the **OVER/UNDER** mode:* Press to accept manually entered TARGET, UNDER, and OVER entries



0-9 - *In the **WEIGH** mode:* Use keys to enter tare value (press ENTER to complete)
*In the **WEIGH** mode:* Press scroll then numeric keys to enter an ID (press ENTER to complete)
*In the **PROGRAM** mode:* Use to enter PASSWORD,
set SLEEP time, (1=yes, 0=no)
Enter parameters
Enter calibration weight value

(•) (**decimal key**) - *In the **WEIGH** Mode*: Used to enter tare value

*In any **MODE*:** Pressing twice will erase keyed entry

B. Weighing Operations:

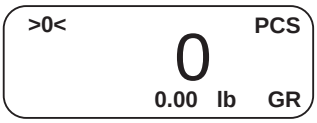
1. **Gross Weighing:**
   a. Press B/G NET, if needed, to set display to GR (gross)
   b. Use ZERO, if needed, to set scale display to 0.0
   c. Place container/object on scale platform
   d. If ID is desired, press SCROLL, enter numeric ID, press ENTER
   e. Record/read GROSS weight
   f. Press PRINT to send data to an installed printer

2. **Net Weighing:**
   a. Press B/G NET, if needed, to set display to GR (gross)
   b. Use ZERO, if needed, to set scale display to 0.0
   c. Place container/object on scale (Tare weight)
   d. Press AUTOTARE or enter tare weight via keypad
   e. Place material in container or add objects (net weight)
   f. If ID is desired, press SCROLL, enter numeric ID, press ENTER
   g. Record/read NET weight (tare weight will also be shown on display)
   h. Press PRINT to send data to an installed printer

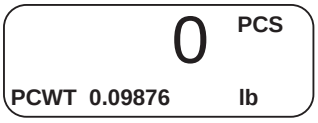
3. **Gross/Tare/Net Weighing:**
   a. Press B/G NET, if needed, to set display to GR (gross)
   b. Use ZERO, if needed, to set scale display to 0.0
   c. Place container/object on scale (Tare weight)
   d. Press AUTOTARE or enter tare weight via keypad
   e. Place material in container or add objects (net weight)
   f. If ID is desired, press SCROLL, enter numeric ID, press ENTER
   g. Read NET weight, read TARE weight
   h. Press B/G NET, read GROSS weight
   i. Press PRINT to send data to an installed printer

4. **Piece Counting**
   A piece count is arrived at by dividing the weight, by the piece weight, using a known piece weight reference.
   A piece weight is calculated by using a sampling function, or from weighing the piece directly on an appropriate scale. To enter the count mode and verify or set a piece weight:

   - From the weigh mode, press the **Application** key once to enter the counting mode
   - The display will show:

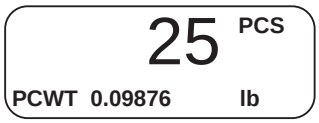


   - Press **SCROLL** to display the piece weight
   - The display will show:



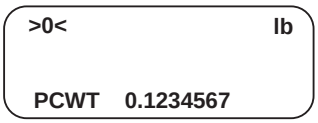
a. **To use the displayed piece weight,** (saved from a previous setting):
Place items on the scale and read PCS (pieces), or, place a container on the scale, press **AUTOTARE**, then put the pieces into the container to count.

- The display will show:



b. **To change the piece weight manually:**
Press **Pgr**, then **SCROLL**. Enter known piece weight using the numeric keypad, then press **ENTER**.

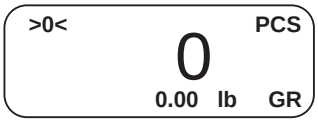
- The display will show:



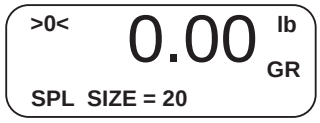
Place items on the scale and read PCS (pieces), or, place a container on the scale, press **AUTOTARE**, then put pieces into the container to count.

c. **To calculate a new piece weight using a known sample:**

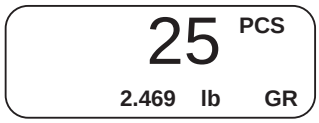
- From the weigh mode, press the **Application** key once to enter the counting mode
- The display will show:



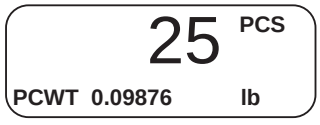
- Press **Pgr,**
- The display will show:



- Count out 25 large items, or aprox. 50 (or more) small items and place them on the scale. (Sample count should always be greater for small items)
- If you use a container, place the empty container on the scale and press **AUTOTARE**
- If current sample size is correct, press **ENTER**, or enter the item count of the sample via the keypad and press **ENTER**
- The display will show:



- Press **SCROLL**,
- The display will show:

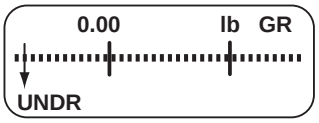


- The new, calculated piece weight will be displayed
- Press **PRINT** to send data to an installed printer
- To exit the counting mode, press the **Application** key twice

5. **Checkweighing:**
Checkweighing is used to see 'graphically' if an item placed on the scale falls within an acceptable weight range. The operator merely needs to add product if under, or remove product if over.

a. **To set the known target weight ranges for a product:**

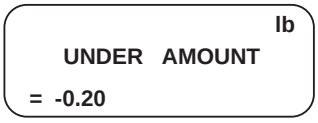
- From the weigh mode, press the **Application** key twice
- The display will show :



- Press **Pgr**,
- The display will show:

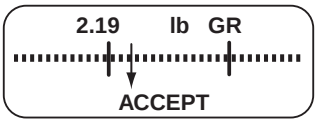
- Enter the new target weight desired using the numeric keypad,
- The display will show:

- press **ENTER**
- The display will show:



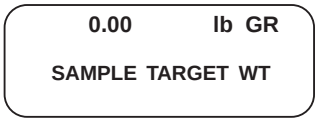
- Enter the allowable under-weight, press **ENTER**
- The display will show :

- Enter the allowable over-weight, press **ENTER**
- The display will show:



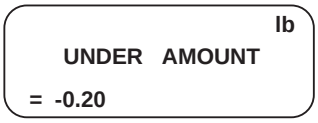
b. **To set an unknown target weight, and ranges for a product:**

- While in the Checkweigh mode,
  press the **Pgr** key followed by the **SCROLL** key
- The display will show:



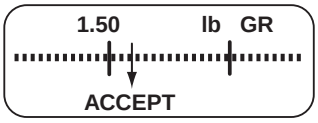
• Place the sample item or product on the platform.
• The display will show:

• Press **ENTER**,
the weight shown will be accepted as the Target Weight.
• The display will show:



• Enter the allowable under-weight, press **ENTER**
• The display will show:

• Enter the allowable over-weight, press **ENTER**
• The display will show:



- An item placed on the scale platform will show "UNDR" until it reaches the TARGET WEIGHT, minus (-) UNDER AMOUNT, then show "ACCEPT".

- The display will show "OVER" when it reaches the TARGET WEIGHT plus (+) OVER WEIGHT.

- The display will show "ACCEPT" when the weight value is between the two entered parameters

Section 6: Troubleshooting

A. Error Codes:

Display	Meaning	Remedy
"automatic reset"	momentary	Resetting upon powerup, no remedy needed.
"automatic reset"	Continuous	Display to Pod connection problem, check 9 pin plug(s), cable, then recycle power.
- - - - - -	QTY is Negative	With platform and/or container empty, press ZERO (gross mode) or AUTOTARE (net mode), resume count operation.
- - - - - -	Value is > 6 digits	Display is exceeding its 6 digit capability. Division size may be set to an improper value, reset division size.
"over capacity"	Over capacity	Remove load, load value exceeds physical or programmed capacity of the platform.
"over ld corner x"	Corner overloaded	Place weight in the center of the weigh platform.
"qty is excessive"	> than 6 digits	The display can show 6 digits of weight or count (999,999), this count has been exceeded.
"Error, PCWT=0"	No PCWT	There is no value for piece weight entered. Enter piece weight manually or by placing a sample on the scale. (See Section 5/b/4/c, pg 19).
"replace batteries"	Low battery power	Replace batteries per instructions in Section 3. Scale will NOT operate, due to low power.
"BAT"	Low battery power	Replace batteries per instructions in Section 3.

Appendix I:

Data Output Specifications, Computer

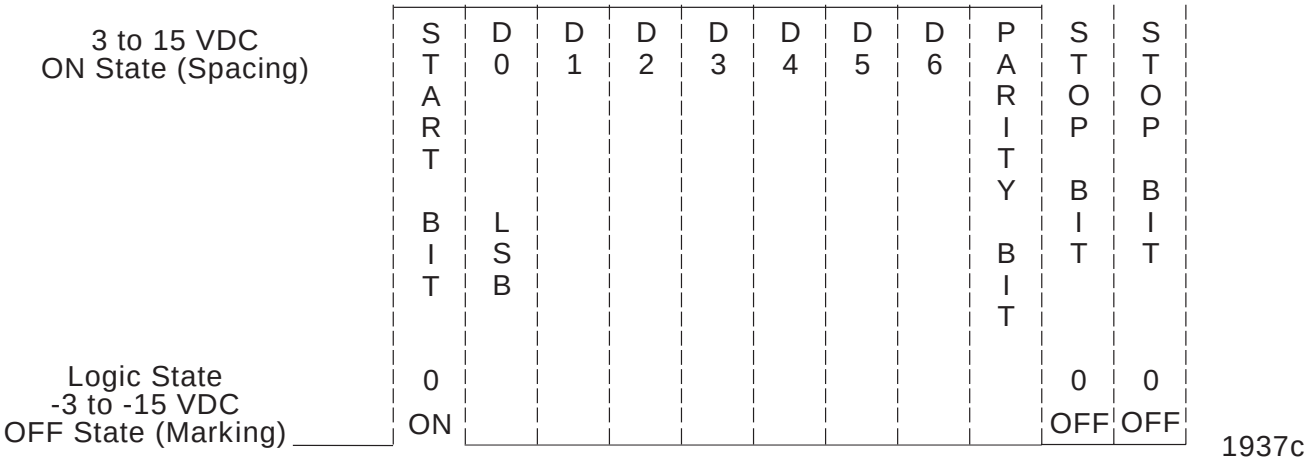
(Generic, Continuous, Polled, On-Line Pro)

A. Introduction: The single RS232-C output port is designed for interface with Fairbanks equipment as well as customer's data processing equipment.

B. Specifications:

RS232-C Compatible Data Signal
Data Bits: 7 / 8
Parity: Odd / Even / None
Baud Rate: 9600, 4800, 2400, 1200, 600
Stop Bits: One / Two
US-ASCII Character Set
Mark = -3 to -15V
Space = + 3 to +15V
Maximum distance of 50 cable-feet

C. Character Frame: Characters are transmitted in an ASCII format at selectable baud (+0.1%). The receiver must be capable of a tolerance of 9600 (± 2.5%) Baud to allow for line losses and frequency skew. Character frame consists of one start bit, 7/8 bit character length, selectable parity bit and one / two stop bits.



1937c

NOTES:

Least Significant Bit (LSB), D0 transmitted first.
Space Character + HEX 20.
Voltage levels above +15 VDC are invalid.
Voltage levels below - 15 VDC are invalid.
Voltage levels between -2 and +2 are invalid.

D. Data Transmission:

On-Line-Pro: Data is transmitted on DEMAND to the host device. Data available for transmission consists of the GROSS weight. Transmission to the host will occur when the host transmits a Carriage Return (HEX 0D) to the scale.

Character Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
String 1																		
Gross Weight	X	X	X	X	.	X	X	SP	l/k	b/g	SP	G/g	R/r	SP	SP	CR	LF	EOT

NOTES:

1. Characters denoted by "X" are characters 0-9. Leading zeroes are replaced with spaces (SP). Character 5 is a decimal point (HEX 2E).

2. Lower case "l" and "b" for Avoirdupois Units or "k" and "g" for Metrics Units.

3. The first weight character will be a minus (-), HEX 2D, If weight is negative.

4. Characters separated with a “/” denotes **ONLY** one of the characters will be transmitted.

5. Lower case gr in characters 12 &13 indicates scale motion.
   Upper case indicates stable weight.

6. EOT, HEX 04 is transmitted in "HiCAP" condition.

7. Transmission will occur when a CR (Hex 0D) carriage return is received.

Data as 'seen' by the receiving device:

-0.50 LB GR
0.5050 LB GR
0.50 LB GR
1.50 LB GR
11.50 LB GR
10 LB GR

E. Data Transmission, Polled, Continuous, or Generic:

Polled: Data is transmitted when a CR is received by the Onyx
Continuous: Data is transmitted without initiation by the operator or receiving device
Generic: Data is transmitted by pressing the PRINT key

Data String consists of the following: (this is one continuous string of alpha characters)

cr Time: tt: tt: tt AM cr lf Date: dd- dd- dddd cr lf Id: iiiiii cr lf lf wwww.ww lb GR cr lf wwww.ww lb TA *cr lf wwww.ww lb NT cr lf lf cr lf cr lf cr lf

t	=	time character
d	=	date character
i	=	id character
w	=	weight character
cr	=	carriage return
lf	=	line feed

Note: ***The data string is the same in all of these modes. Items may be omitted from print or send by selecting ""NO" in the I/O menu. When prompted for "PRINT XXXX: YES, change to "NO" using the SCROLL KEY, then press ENTER.***

Data as "seen" by the receiving device:

Time: 11:18:43AM
Date: 02-24-2000
id: 568922

2.16 lb GR
1.00 lb TA
1.16 lb NT

Appendix II: Cable connection chart for Onyx™ Scales:

A. Cable Pin-Outs

Onyx™ TB2 Internal	3550 DB25 Male	3950 DB25 Male	3960 DB25 Male	610 DB25 Male	3921 DB25 Male	2642 DB9 Male	Cputr DB25 Male	Cputr DB9 Female
RX1			2				2	3
TX 2	3	3	3	3	3	3	3	2
CTS 3	20				20			
GND 4	7	7	7	7	7	5	7	5
RTS 5								
Cable#	15597	15598	15599	15598	15599	21052	15599	21133

Appendix III: Printer Setups

A. 3550 Series Tape Printer Settings:

SW1 = 0111010100 **SW2 =** 11111100

9600, No parity, 8 Bits, 1 Stop Use Cable # 15597 (Acc 1295)

Print Examples

Pc Weight w/GTN & ID

```
Time: 10:57:11AM
Date: 01-31-2000
Id:   11

11.70 lb GR
 6.70 lb TA *
 5.00 lb NT

Qty:   500
Pc. Wgt.  0.0100
```

GTN w/ID

```
Time: 10:57:11AM
Date: 01-31-2000
Id:   11

11.70 lb GR
 6.70 lb TA *
 5.00 lb NT
```

Net/GR Only w/ID

```
Time: 10:57:11AM
Date: 01-31-2000
Id:   11

 5.00 lb NT
```

B. PTR-3950 Ticket Printer Settings:

SW1 12345678 01100011 **SW2 12345678** 10011010

2400, No Parity, 8 Bits, 1 Stop Use Cable 15598 (Acc 1296)

Print Examples:

Pc Weight w/GTN & ID

```
Time: 12:10:01PM
Date: 01-31-2000
Id:   1

11.00 lb GR
 6.00 lb TA *
 5.00 lb NT

Qty:   500
Pc. Wgt.  0.0100
```

GTN w/ID

```
Time: 12:10:01PM
Date: 01-31-2000
Id:   2

11.00 lb GR
 6.00 lb TA *
 5.00 lb NT
```

Net/GR Only w/ID

```
Time: 12:10:01PM
Date: 01-31-2000
Id:   3

 5.00 lb GR
```

C. PTR-3960 Ticket Printer Settings:

SW1 12345678910
1110000000

9600, No Parity, 8 Bits, 1 Stop **Use Cable 15599 (Acc 1297)**

Print Examples:

```
Pc Weight w/GTN & ID     GTN  w/ID           Net/GR Only w/ID
Time: 12:10:01PM         Time: 12:10:01PM    Time: 12:10:01PM
Date: 01-31-2000         Date: 01-31-2000    Date: 01-31-2000
Id:   1                  Id:   2             Id:   3

11.00 lb GR              11.00 lb GR          5.00 lb GR
 6.00 lb TA *             6.00 lb TA *
 5.00 lb NT               5.00 lb NT

Qty:   500
Pc. Wgt.  0.0100
```

D. PTR-610 Ticket Printer Settings:

SW1 01010011

1200 Baud, Odd Parity, 7 Bits, 1 Stop **Use Cable 15598 (Acc 1296)**

Pc Weight w/GTN & ID **GTN w/ID** **Net/GR Only w/ID**

```
Time: 10:57:11AM         Time: 10:57:11AM    Time: 10:57:11AM
Date: 01-31-2000         Date: 01-31-2000    Date: 01-31-2000
Id:   11                 Id:   11            Id:   11

11.70 lb GR              11.70 lb GR

 6.70 lb TA *             6.70 lb TA *

 5.00 lb NT               5.00 lb NT          5.00 lb NT


Qty:   500
Pc. Wgt.  0.0100
```

E. 50-3921 Form Printer Settings:

SW1(super spd ser bd)	SW2 (super spd ser bd)	DipSW (Main PC)
12345678	**12345678**	**12345678**
11111111	01100110	00001010

9600, No Parity, 8 Bits, 1 Stop **Use Cable 15599 (Acc 1297)**

Print Examples:

Pc Weight w/GTN & ID

```
Time: 10:50:01AM
Date: 01-31-2000
Id:   5

11.70 lb GR
 6.70 lb TA *
 5.00 lb NT

Qty:  500
Pc. Wgt.  0.0100
```

GTN w/ID

```
Time: 10:50:01AM
Date: 01-31-2000
Id:   5

11.70 lb GR
 6.70 lb TA *
 5.00 lb NT
```

Net/GR Only w/ID

```
Time: 10:50:01AM
Date: 01-31-2000
Id:   5

5.00 lb NT
```

F. PTR-2642 and 2642 Barcode Label Printer Settings:

Note: The 2642 MUST be initialized, as follows:

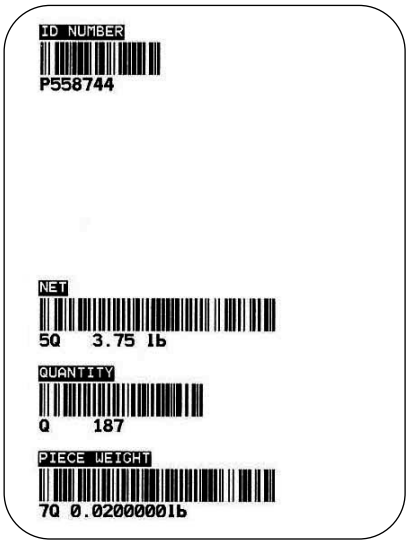
1. Make certain the printer is connected, and is powered before programming the Onyx™.
2. If NOT, connect & power up the 2642, then recycle the Onyx™ power.

No Switches on PTR-2642 to set!
9600 Baud, No Parity, 8 Bits **Use Cable 21052**

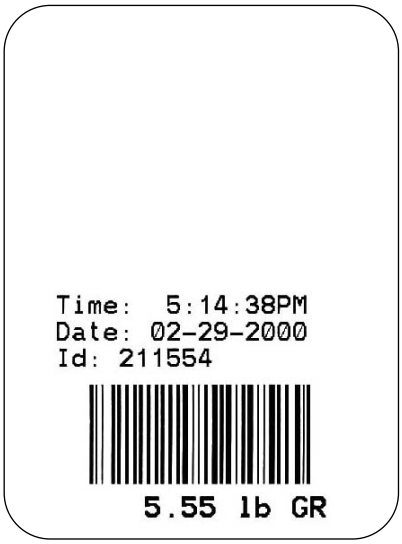
Print Examples:

Pc Weight w/GTN & ID

Pc Weight w/ N & ID



Net/GR Only w/ID



Configuration Report Example:

```
CONFIGURATION REPORT (use a form or tape printer)

TIME    8:14:40AM
DATE   02-08-2000
CONFIG AUDIT:   4
CAL AUDIT:      2
CAPACITY:     150
div SIZE:     .05
CAL UNITS:     lb
TYPE: HANDBOOK44
AZT BAND:     0.5
MOTION BAND: 1.0
PIECE COUNT: YES
OVER/UNDER:   YES
ENABLE lb:    YES
ENABLE kg:    YES
ENABLE oz:     NO
ENABLE g:      NO
ENABLE lb-oz: NO
AUTOTARE:     YES
KEYBD TARE:   YES
FILTER:     LIGHT
DISPLAY RATE:0.3
SLEEP TIME:   0.0
DEVICE:      3550
BAUDRATE:    9600
DATA BITS:      8
STOP BITS:      1
PARITY:      NONE
PRINT TIME:   YES
PRINT DATE:   YES
PRINT  GR TA NET
PRINT ID:     YES
PRINT PIECES:YES
PRINT PC WT: YES
AUTO PRINT:    NO
PRINT SWT:    YES
```

G. Generic:

Set up the output for any 'other' device in the serial format selected.

H. Continuous:

Set up the output for a continuous output in the serial setup selected.

I. Polled:

A request for data, from a device, is answered by the Onyx™ in the serial setup selected.

J. OnlinePro:

An output setup that matches the UPS data format, software available at www.UPS.com

Baud:	9600
Data Bits:	7
Stop Bits:	2
Parity:	Odd

Use Cable 21133

Appendix IV: Flow Chart