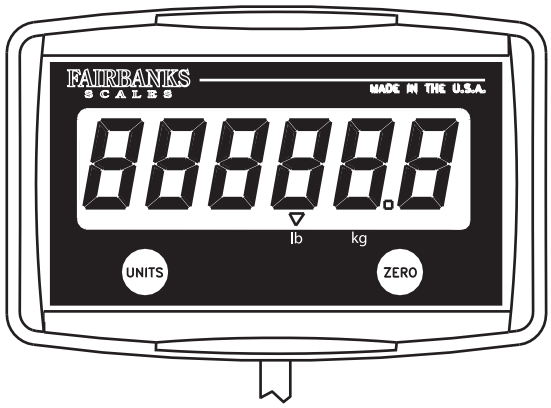
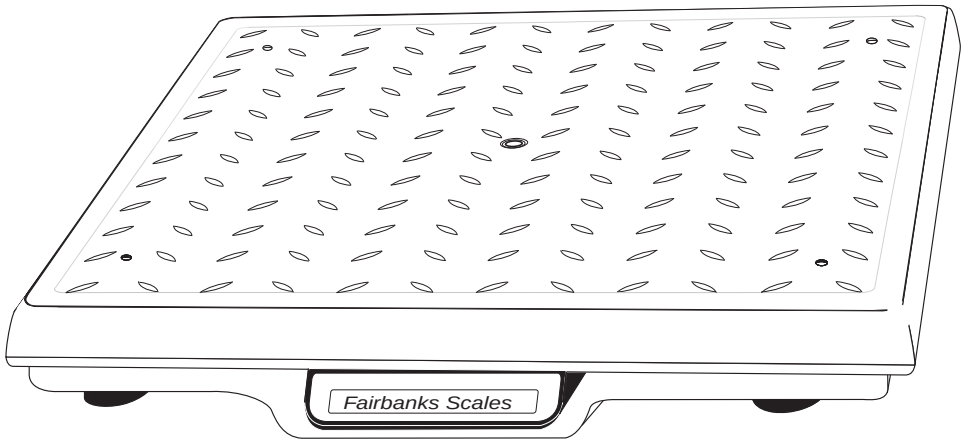
Operator's Manual

Ultegra™ Health Scale





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Revision 5 06/07

Amendment Record

Ultegra™ Health Scale
50735

Manufactured by Fairbanks Scales Inc.
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Kansas City, Missouri 64106

Origination date: 11/03

Issue 1	11/03	New Product Release
Issue 2	01/05	Updated Specifications
Issue 3	05/05	Added NTEP COC number to specifications
Revision 4	01/07	Updated Specifications
Revision 5	06/07	Non-Commercial Resolution specification update.

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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.

Section 1:
Introduction & Description

A. Introduction

The Ultegra™ Health Scale is powered by a 12-volt AC adapter. It has a capacity of 600 pounds, and is constructed of ABS composite material.

B. Description

The scale is designed for personal weighing applications. It includes a large, easy-to-read remotely mounted LCD display and a 9-pin RS232 output cable.

⚠ WARNING **To prevent personal injury, please read this booklet before using your scale!**

1. Power supply must be used with a correctly grounded outlet.
2. Do not place your scale on a soft, wet or slippery floor. You should place your scale on a solid and level floor.
3. Avoid extremes in temperature, humidity, shock, moisture and dust.
4. Do not step on your scale with wet feet. Make sure that feet are dry to prevent slipping and/or serious injury.
5. Do not service this unit yourself. Refer servicing to a qualified technician.

C. Specifications

1. Technical Specifications
   a. Capacities:
      600 lb/272 kg

   b. Resolution: Programmable
      0.2 lb / 0.1 kg Commercial Setting
      0.1 lb / 0.05 kg Non-Commercial Setting

   c. Commercial Divisions:
      3000 divisions

   c. Rounding:
      1 division

   d. Weight update rate:
      0.4 seconds

   e. Motion Detection:
      1 division, satisfies H-44 requirements

   f. Power Failure Protection:
      Zero reference, programming, and calibrations are retained if the instrument loses power.

g. Load Cell Excitation:
5v Pulsed DC

h. Dimensions:
Platform, Including Feet 14" x 14" x 2.75"

i. Auto Zero Tracking:
Compensates for gradual buildup of material on platform, factory set at 0.5 divisions

j. Power Supply:
Input - 120 Vac 60 Hz
Output - 12Vdc 500 mA

k. NTEP Approval:
Certificate of Conformance (COC) No. 98-198A2

D. Environment

1. Relative Humidity 0% to 90% non-condensing.
NOT suitable for water washdown.

Section 2: Operation

A. Unpacking and Setup

1. Remove the scale from the packing box.
2. Place on a flat surface where it will be used.
3. Using the level bubble, adjust one or two feet minimally to level platform. (Do NOT adjust all 4 feet.)
4. Optimal leveling is indicated when the bubble level appears as shown below.

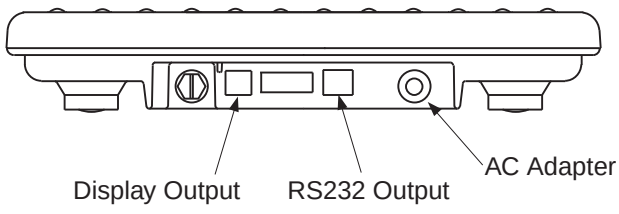
B. Connections

1. Plug display interface cable into the scale base where marked. Refer to illustration below.
2. Plug AC power adpater into the the scale base where marked. Refer to illustration below.
3. Plug RS 232 interface cable into the scale base where marked, if required. Refer to illustration below.

C. Operating Controls

The keys for operating the scale are located on the display.

1. Pressing the ZERO key resets the display to indicate zero (0), the center-of-zero (>0<) indication will be displayed.
    - The zero range is set at 2 % of capacity when set for Canadian use.
    - The zero range is set at 100% of capacity when set for USA use.
2. The ZERO key function will be inhibited if the instrument detects any of the following conditions:
    a. Motion on the platform
    b. An underload condition
    c. An overload condition
    d. Outside of programmed zero range
3. Pressing the UNITS key toggles the weighing units and the display 'indicators' from "lb" to "kg." Set to the units you will use by noting the arrow 'indicator' in the display.



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Section 3:
Customer / Operator Service

A Introduction

This section describes maintenance procedures that may be easily performed by the operator. No other adjustments or repairs are to be performed by other than Fairbanks Trained Service personnel.

B. Cleaning

Wipe the scale assembly with a damp cloth. Do not spray cleaners onto scale or washdown with water or allow water or liquids to drip onto scale.

C. Troubleshooting

In the event the scale does not function properly, check the following before contacting service:

Problem	Possible Source / Remedy
No Display	Power OFF, plug disconnected, power cord damage, faulty outlet. Unplug then plug in the power cord to reset the program.
Incorrect Weight	Check platform for binding or rubbing, reposition scale so all sides are clear, nothing jammed around edges. Ensure correct UNITS are displayed (lb or kg). Remove load, press the ZERO key to set the scale to '0.0' then recheck.
ZERO command does NOT reset zero	Motion on receiver. Remove source of motion, be certain platform is empty. Ensure that the platform is empty. Check platform for binding or rubbing, reposition scale so all sides are clear.
No RS232 Output	Scale does not have power. Apply power and recheck RS232 output and power input cable disconnects for damaged. Check that both connectors are securely fastened. Test the computer port for conflicts.
Display Locked or Inoperative	First disconnect, then reconnect the power cord to reset the program. Check the display cable and plug connection.
Display Indicates "HiCAP"	Weight on the platform exceeds 600 pounds. Remove load.
Display Indicates "HiLdX "	Reposition load so the weight is in the center instead of over one corner.
Display Indicates "LoLdX"	Check platform for binding or rubbing, reposition scale so all sides are clear.

Note: If the above remedies do NOT effect satisfactory operation, please call for service.

Appendix 1:
Data Output Specifications

This appendix contains detailed data output information on the Ultegra.

RS232-C Serial Data Output

A. Introduction

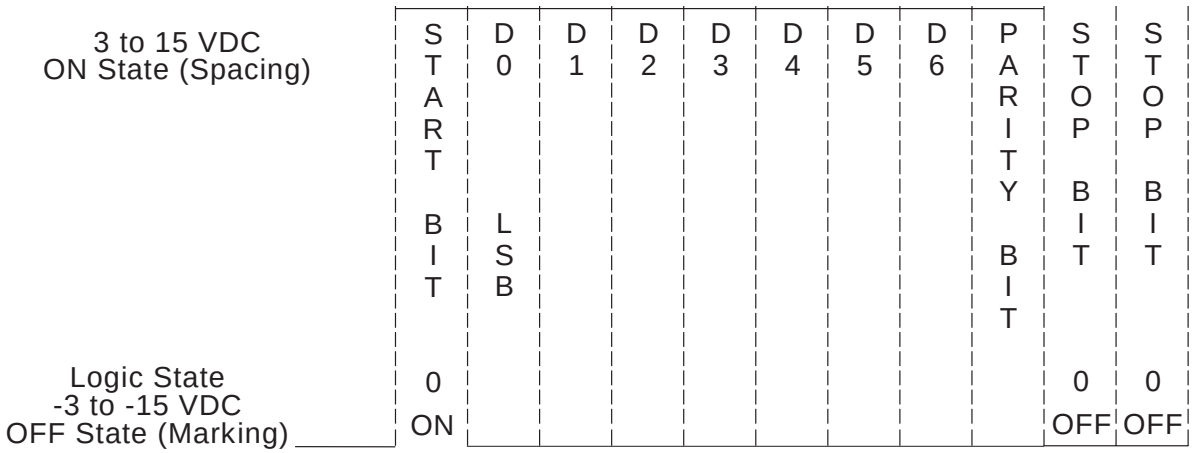
The single RS232-C output port is designed for interface with customer's data processing equipment.

B. Specifications

- RS232-C compatible Data Signal
- 7 data bits
- Odd Parity
- 9600 Baud Rate (+0.1%)
- Two Stop Bits
- US-ASCII Character Set
- Mark = -3 to -15V
- Space = + 3 to +15V
- Maximum distance of 50 cable-feet
- Connector (at end of the attached cable)
  DB9 Female for connection to a PC serial port

C. Character Frame

Characters are transmitted in an ASCII format at 9600 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-bit character length, odd parity bit and two stop bits.



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

Data is transmitted on DEMAND from 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.

E. Computer Output Format

The instrument will transmit the following string of data.

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 6 is a decimal point (HEX 2E). The decimal will move to the fifth (5) character position when at .05 kg.

2. Lower case “l” and “b” for Avoirdupois units or “k” and “g” for metric units.

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

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

5. Lower case “gr” in characters 12 and 13 indicates scale motion.
   Upper case indicates stable weight.

6. EOT, HEX 04 is transmitted when:
   a. Power-up occurs and scale is NOT at ZERO
   b. Scale senses Overcapacity

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

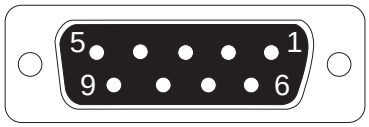
F. Serial Data Output Format:

- 9600 baud
- 7 bits
- odd parity
- 2 stop bits

RS232 cable part 21619, DB9 female

Pin Number	Signal
1	Ground
2	Transmit (Tx)
3	Receive (Rx)
4	
5	
6	
7	
8	
9	+12VDC

DB9 female connector (computer end of cable)



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