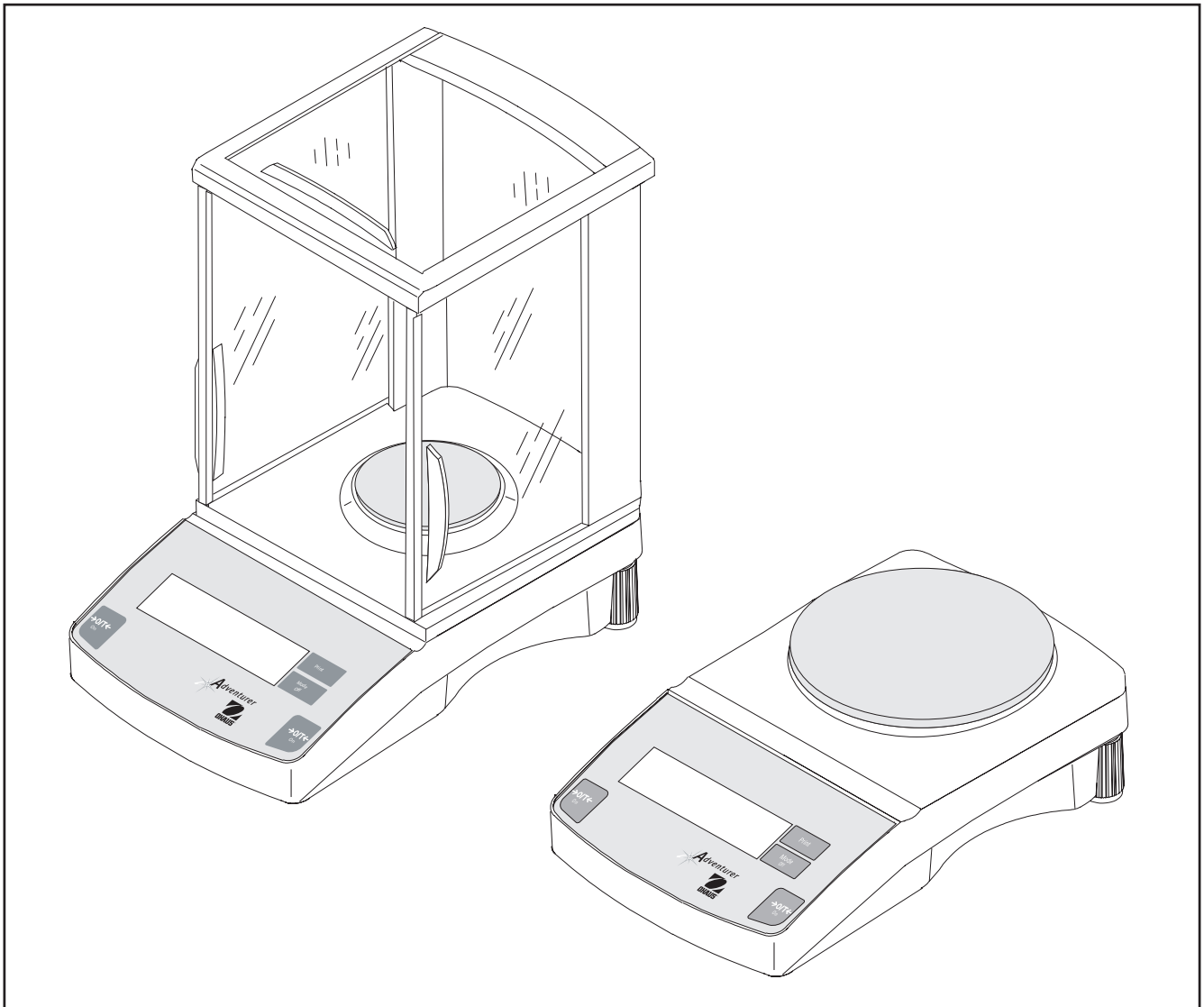


## INSTRUCTION MANUAL Adventurer™ Balances





**Declaration of Conformity** We, Ohaus Corporation, declare under our sole responsibility that the balance models listed below are in conformity with the directives and standards mentioned.

**Declaración de Conformidad** Nosotros, Ohaus Corporation, declaramos bajo responsabilidad exclusiva que los modelos de balanzas indicados a continuación - están conformes con las directivas y normas citadas.

**Déclaration de conformité** Nous, Ohaus Corporation, déclarons sous notre seule responsabilité, que les types de balance ci-dessous cité - sont conformes aux directives et aux normes mentionnées ci-après.

**Konformitätserklärung** Wir, die Ohaus Corporation, erklären in alleiniger Verantwortung, dass die untenstehenden Waagentypen - mit den genannten Richtlinien und Normen übereinstimmen.

**Dichiarazione di conformità** Noi, Ohaus Corporation, dichiariamo sotto nostra unica responsabilità, che i tipi di bilance specificati di seguito - sono conformi alle direttive e norme citate.


Model/Type Adventurer Series ARx (where AR is the series name abbreviation and x is any combination of alpha and numeric characters.

Modelo/Tipo Adventurer Series ARx (donde AR es la abreviatura del nombre de serie y x es cualquier combinación de caracteres alfa-numéricos).

Modèle/Type Série Adventurer ARx (avec AR représentant l'abréviation du nom de la série et x une combinaison de caractères alphanumériques).

Modell/Typ Adventurer-Serie ARx (wobei AR die Abkürzung des Seriennamens darstellt und x eine beliebige Kombination von alphabetischen und numerischen Zeichen ist.)

Modello/Tipo Adventurer Serie ARx (dove AR è l'abbreviazione del nome della serie e x è una combinazione di lettere e di cifre.

<b>EC Marking:</b> <b>Marcado EC</b> <b>Marquage CE</b> <b>EC-Markierung</b> <b>Marcature EC</b>	<b>EC Directive</b> <b>Directiva EC</b> <b>Directive CE</b> <b>EC Richtlinie</b> <b>Direttiva EC</b>	<b>Applicable Standards</b> <b>Normas aplicables</b> <b>Normes applicables</b> <b>Geltende Standards</b> <b>Standard applicabili</b>
	<b>73/23/EEC</b> Low Voltage Baja tensión Basse tension Niederspannung Bassa tensione	<b>EN61010-1:2001</b>
	<b>89/336/EEC</b> Electromagnetic compatibility Compatibilidad electromagnética Compatibilité électromagnétique Elektromagnetische Verträglichkeit Compatibilità elettromagnetica	<b>EN61326:1997 +A1:98 +A2:01 (class B)</b> <b>EN61326:1997 +A1:98 +A2:01</b> <b>(Minimal requirements)</b>



Date: March 11th, 2004



Ted Xia  
 President  
 Ohaus Corporation  
 Pine Brook, NJ USA



Urs Müller  
 General Manager  
 Ohaus Europe  
 Greifensee, Switzerland

Mark	Standard
	<b>CAN/CSA-C22.2 No. 1010.1-92; UL Std. No. 3101-1</b> Safety requirements for Electrical Equip. for measurement, Control and Laboratory Use, Part 1; General Requirements
	<b>AS/NZS4251.1, AS/NZS4252.1</b> Emission and Immunity

**Note:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This Class A digital apparatus complies with Canadian ICES-003.  
 Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada

**ISO 9001 Registration**

In 1994, Ohaus Corporation, USA, was awarded a certificate of registration to ISO 9001 by Bureau Veritus Quality International (BVQI), confirming that the Ohaus quality management system is compliant with the ISO 9001 standard's requirements. On May 15, 2003, Ohaus Corporation, USA, was re-registered to the ISO 9001:2000 standard.

**Registro ISO 9001**

En 1994, Bureau Veritus Quality International (BVQI) le otorgó a Ohaus Corporation, EE.UU., un certificado de registro ISO 9001 el cual confirma que el sistema administrativo de calidad de Ohaus cumple con los requerimientos del estándar ISO 9001. En mayo 15 del 2003, Ohaus Corporation, EE.UU., fue registrada nuevamente al estándar ISO 9001:2000.

**Enregistrement ISO 9001**

En 1994, le Bureau Veritus Quality International (BVQI) a octroyé la certification d'enregistrement ISO 9001 à Ohaus Corporation, États-Unis d'Amérique, confirmant que le système de gestion de la qualité Ohaus était conforme aux conditions normalisées de l'ISO 9001. Le 15 mai 2003, Ohaus Corporation, États-Unis d'Amérique, a été ré-enregistrée à la norme ISO 9001:2000.

**Registrierung nach ISO 9001**

Im Jahr 1994 wurde der Ohaus Corporation, USA, ein Zertifikat der Registrierung nach ISO 9001 vom Bureau Veritus Quality International (BVQI) verliehen, in dem bestätigt wird, dass das Ohaus-Qualitätsmanagementsystem den Anforderungen der Norm ISO 9001 entspricht. Am 15. Mai 2003 wurde die Ohaus Corporation, USA, gemäß der Norm ISO 9001:2000 neu registriert.

**Registrazione ISO 9001**

Nel 1994, Ohaus Corporation, USA, ha ricevuto il certificato di registrazione ISO 9001 da Bureau Veritus Quality International (BVQI), come conferma che il sistema di gestione della qualità Ohaus risponde alle caratteristiche standard di ISO 9001. Il 15 Maggio 2003, Ohaus Corporation, USA, è stata reregistrata per la normativa ISO 9001:2000.

## INTRODUCTION

This manual covers installation, operation and troubleshooting for the OHAUS® Adventurer™ Balances. To ensure proper operation of your balance, please read this manual completely.

## DESCRIPTION

The Ohaus Adventurer™ balances are precision weighing instruments, designed to provide years of service with virtually no maintenance. Models are available with capacities from 65 g to 4100 g. The 65 g through 410 g balances include a draft shield. Weigh below operation is made possible with a built-in weigh below hook.

The Adventurer™ balances are constructed with a durable housing, leveling feet, built-in leveling bubble, and a large custom LCD. Control buttons are clearly marked as to their function, with large Tare buttons located on either side of the front panel.

All Adventurer™ balances are initially factory set to measure in grams and can be set to measure in \*kilograms, milligrams, carats, Newtons, pounds, ounces, troy ounces, grains, pennyweight, mommes, mesghals, Hong Kong Taels, Singapore Taels, Taiwan Taels, Ticals, and Parts Counting. Simple three button operation allows for the selection of measuring units, calibration and printing parameters. A standard RS232 interface permits communication to an external printer or computer.

\*See specifications for measuring units which are available.

Power is supplied through an AC adapter. Accessories include: an in-use cover, security device, calibration masses, printer, and scoops. See accessory section.

Behind your instrument stands OHAUS Corporation, a leading manufacturer of precision weighing equipment. An Aftermarket Department with trained instrument technicians is dedicated to provide you with the fastest service possible in the event your instrument requires servicing. OHAUS Corporation also has a Customer Service Department to answer any inquiries regarding applications and accessories.

## MENUS

Adventurer™ balances contain four display menus which enable you to select measuring units, calibrate the balance, turn on a tone signal which operates with each key stroke, and set up communication/print parameters.

- **UNITS** Menu - Allows up to 16 measuring units to be selected plus parts counting.
- **LIN** Calibration Menu - Allows the balance to be calibrated by using linearity calibration methods. Two masses are required.
- **SYS** Menu - Enables tone signal with each keystroke.
- **PRINT** Menu - Allows communication parameters to be set which include Baud rate, Parity, Data and Stop bits. A Reset function permits returning the communication parameters to factory settings.
- **MENU END** - When selected, balance returns to weigh mode.

## UNPACKING

All Adventurer™ balances are supplied with a weighing platform, AC power adapter, built-in weigh below hook, instruction manual and warranty card. Draft shields are supplied with 65 g through 410 g balances.

Carefully unpack all items.

- Check the instrument for transport damage. Immediately inform your Ohaus dealer if you have complaints or if parts are missing.
- Store all parts of the packaging. This packaging guarantees the best possible protection for the transport of your instrument.

## INSTALLATION

### Selecting the Location

The balance should be used indoors only and in an environment which is free from excessive air currents, corrosives, vibration, and temperature or humidity extremes (Max 85%). Maximum altitude not to exceed 4000 m above sea level. These factors will affect displayed weight readings.

**DO NOT** install the balance:

- Next to open windows or doors causing drafts or rapid temperature changes.
- Near air conditioning or heater vents.
- Near vibrating, rotating or reciprocating equipment.
- Near magnetic fields or equipment that generates magnetic fields.
- On an unlevel or unstable work surface.

**NOTE:** Manufacturer cannot guarantee the safety of the product if it is not used according to the instructions.

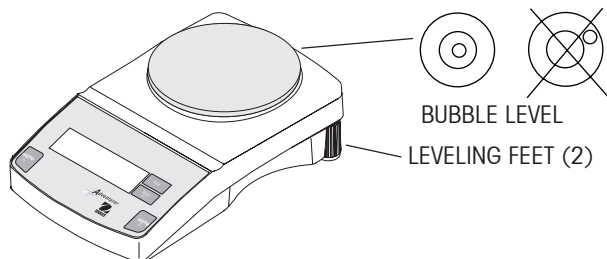
### Setting Up and Leveling the Balance

Exact horizontal positioning and stable installation are prerequisites for repeatable results. To compensate for small irregularities or inclinations at the location, the instrument can be leveled.

For exact horizontal positioning, the balance is equipped with a level indicator and two leveling feet located at the rear of the balance.

Position the balance in the intended operating location. Adjust the leveling feet at the rear of the balance until the air bubble in the indicator is centered.

**NOTE:** The instrument should be leveled each time its location is changed.



## Connecting Power



**NOTICE:**  
**The socket/outlet must be installed near the equipment and shall be easily accessible. For use with an certified (CSA or equivalent) power supply, which must have a limited and SELV circuit output.**

Connect the AC Adapter cord to the connector located at the rear of the balance and to a suitable power source.

## Pan Installation

Place the pan support and pan on the balance. The balance is now ready for operation. Balances with a draft shield do not have a pan support.

## Weigh Below Hook

For below balance weighing applications (eg. density determination), a weigh below hook is installed at the bottom of the balance and is part of the balance. To use, remove the protective plug cover located at the bottom of the balance. The balance should then be supported on an elevated level surface which allows access to the weigh below hook. The balance should be leveled. Measurements are made by the use of a fine wire attached to the internal weigh below hook.

### CAUTION:

**Do not attempt to remove the weigh below hook from the balance as the balance may be damaged.**

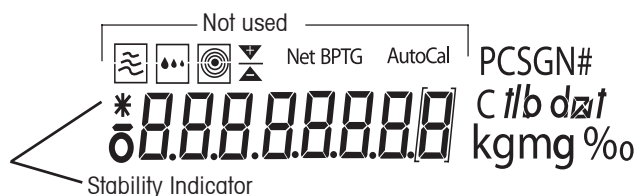
## Security Bracket

A security bracket which is cast in the lower housing is provided at the rear of the balance under the leveling bubble. This bracket allows the balance to be secured by an optional cable and lock accessory.

## OPERATION

### Turning the Balance ON

Press **>O/T<**, all segments will appear briefly followed by a software revision number (when plugged in first time) or after a power interruption and then \* **0.00 g**. Allow 20 minutes warm-up time. When



the balance is first turned on, it can be used to weigh in grams or tare items *without* setting the menus.

### Turning the Balance OFF

To turn the balance OFF, press and hold **Mode Off** until the display indicates **OFF** then release.

## Weighing

With the balance turned ON, it is ready to weigh in grams.

1. If other measuring units are desired, refer to Menu Section for setup procedure.
2. If it is necessary to rezero the display, momentarily press **>O/T<**.
3. Place item(s) to be weighed on the pan and read the weight on the display. The stability indicator \* appears when the reading is stable.

## Taring

When weighing items that must be held in a container, taring subtracts the container's weight from the total weight on the pan.

1. With an empty container on the pan, press **>O/T<** to zero the display.
2. As material is added to the container, the net weight is displayed. Tared weight remains in balance memory until **>O/T<** is pressed again.

## MENU

The setup menu permits you to activate available weighing units, parts counting, linearity calibration, keystroke tone and print parameters. To enter the menu the balance must first be turned off. Press and hold the **>O/T<** until **MENU** is displayed then release. To advance through the menus, press **Mode Off**. To enter a selected menu, press **>O/T<**. After you make selections in any menu, you may continue to make additional changes in other menus before exiting and saving. To exit a menu and return to weigh mode without saving settings, press and hold **Mode Off** until full display appears, then release.

**NOTE:** Selecting **END** in the **UNITS**, **SYS** and **PRINT** menus will save the settings for each menu.

### MENU

- UNITS** - g, kg, mg, ct, N, lb, oz, ozt, GN, dwt, mo, m, Hong Kong taels, Singapore taels, Taiwan taels, cL, and PCS. - Set each to ON or OFF. **NOTE:** Only one Tael may be on at a time. See specifications table for available units.
- LIN** - Performs linearity calibration.
- SYS** - Permits setting tone ON or OFF, with each keystroke.
- PRINT** - Permits setting communication and print parameters.
- MENU** - Exit menu and return to weigh mode.
- END**

### Activating Units and Parts Counting (PCS)

1. With the balance OFF, press and hold **>O/T<** until **MENU** is displayed, then release, **UNITS** is displayed.
2. Press **>O/T<**, **On g** is displayed. To turn this unit of measure **ON** or **OFF**, press **Mode Off** to select ON or OFF condition.
3. To advance through all of the measuring units including parts counting and to set each ON or OFF, press **>O/T<** to advance to next unit then press **Mode Off** to select **ON** or **OFF**. You must continue until **END** appears. **NOTE:** Only one Tael can be activated at a time.
4. When **END** is displayed, press **>O/T<** to store unit selections.
5. To exit the menu, repeatedly press **Mode Off** until **MENU END** is displayed, then press **>O/T<**. Balance returns to a weighing mode.

### Setting Tone Signal On or Off

1. With the balance OFF, press and hold **>O/T<** until **MENU** is displayed, release it and **UNITS** is displayed.
2. Press **Mode Off** until **SYS** is displayed.
3. Press **>O/T<**, **BEEP ON** is displayed.
4. Press **Mode Off** to select **ON** or **OFF**.
5. To store, press **>O/T<**, **END** is displayed, then press **>O/T<**.
6. To exit the menu, press **Mode Off** until **MENU END** is displayed, then press **>O/T<**. Balance returns to a weighing mode.

### Resetting Communication and Printing Parameters to Factory Defaults

Factory defaults are: Baud Rate = **2400**, Parity = **No**, Data = **7**,

Stop Bit = **2**, Stbl = **ON**, Auto = **OFF**.

1. With the balance OFF, press and hold **>O/T<** until **MENU** is displayed, release it and **UNITS** is displayed.
2. Press **Mode Off** repeatedly until **PRINT** is displayed.
3. Press **>O/T<**, **RESET n** is displayed (**n** = no). Select **y** = yes by pressing **Mode Off**.
4. Repeatedly press **>O/T<** until **MENU END** is displayed, then press **>O/T<**. The balance displays all of the communication settings as you advance through the menu. Balance returns to a weighing mode.

### Setting Communication and Print Parameters

Bolded setting shown below are the factory settings.

1. To enter the Print Menu, with the balance OFF, press and hold **>O/T<** until **MENU** is displayed, release it and **UNITS** is displayed.
2. Press **Mode Off** repeatedly until **PRINT** is displayed.

### Setting Baud Rate

Press **>O/T<**, until **bd 2400** is displayed. Using the **Mode Off** button, you can select baud rates of 600, 1200, **2400**, 4800 or 9600. Once you have selected the proper baud rate for your system, press **>O/T<**, the display advances to **PAR no** (parity).

### Setting Parity

Repeatedly press **Mode Off**, to select either **no**, odd or E for even. Once the desired parameter is selected, press **>O/T<**, the display advances to **DATA 7**.

### Setting Data

Pressing the **Mode Off** button allows the selection of **DATA 7** or DATA 8. Once the desired parameter is selected, press **>O/T<**, the display advances to **STOP 2**.

### Setting Stop Bit

Pressing **Mode Off**, you can select **STOP 1** or **2**. Press **>O/T<**, the display advances to **STBL ON**.

### Setting Print Modes

The Adventurer™ balance offers a choice of manually printing only stable or all data (**STBL ON/OFF**) at any time by pressing the **Print** button or printing stable readings automatically (**AUTO ON/OFF**). The default setting for automatic stable readings is **OFF**. Only one of these may be set on at a time.

### Stable Data On or Off

When **STBL ON** is displayed, press **Mode Off** to select **ON** or **OFF**, then press **>O/T<**, **AUTO OFF** is displayed.

### Auto Print On or Off

With **Auto Print ON**, the balance automatically prints stable data when the display changes by at least five counts. Press **Mode Off** and select **ON** or **OFF**, then press **>O/T<**, **END** is displayed. To save settings, press **>O/T<**. **MENU END** is displayed. Press **>O/T<** to return to weigh mode.

### Parts Counting

To use Parts Counting, it must first be activated in the Menu. Refer to Menu section to activate parts counting. The balance will count parts based on the weight of a reference sample of 5, 10, 20, 50 or 100 parts. For optimum results, the parts should be uniform in weight.

1. Place a container on the pan and press **>O/T<** to tare it.
2. With the balance ON, press and hold **>O/T<** until **Set PCS** is displayed, then release it. The display shows **Set XX**, where **XX** is the last used counting sample. To change the sample size, repeatedly press **Mode Off** and stop at the desired sample number. Choices are 5, 10, 20, 50 or 100 pieces.
3. Add the selected number of parts to the container, then press **>O/T<**. The display shows the number of parts added.
4. Add parts as desired and read the quantity on the display.
5. To read the weight of the parts, press **Mode Off** to change to any of the activated weighing units. You can return to parts counting at any time by repeatedly pressing **Mode Off** until the parts counting indicator is displayed. Sample weight is retained as long as the balance remains plugged in or you change it by the procedure above.
6. To exit to weighing mode, press **Mode Off** until desired unit is displayed. Press **>O/T<** to tare the balance.

### CALIBRATION

Adventurer™ balances are calibrated before shipment, however, calibration can be affected by changes in location, temperature, or rough handling. Adventurer™ balances can be calibrated in two ways: Span calibration or Linearity calibration. Span calibration resets the balance's weighing range using two weight values: zero and a weight value at or near the balance's capacity. Linearity calibration minimizes deviation between actual and displayed weights within the balance's weighing range. Three weight values are used: zero, a weight value within the balance's weighing range and a weight value at or near the balance's specified capacity.

## CALIBRATION (Cont.)

### Calibration Masses

Before beginning calibration, make sure masses are available. If you begin calibration and realize calibration masses are not available, exit the procedure by pressing and holding **Mode Off** until balance returns to weigh mode. The balance will retain previously stored calibration data. Calibration should be performed as necessary to ensure accurate weighing. Masses required to perform the procedures are listed in the following table.

**CALIBRATION MASSES**

CAPACITY	LINEARITY MASSES	SPAN ONLY MASSES
65g	20g/50g	50g
110g	50g/100g	100g
150g	100g/150g	150g
210g	100g/200g	200g
310g	100g/300g	300g
510g	300g/500g	500g
1500g	500g/1500g	1500g
3100g	1000g/3000g	3000g
4100g	2000g/4000g	4000g

Masses must meet or exceed ASTM Class 1 Tolerance. Calibration masses are available as accessories.

### Span Calibration

1. With the balance turned ON, press and hold **>O/T<** until **CAL** is displayed.
2. Release **>O/T<**, **-C-** momentarily displayed followed by the value of the calibration mass which is to be placed on the pan.

**Do not disturb the balance when -C- is displayed. Incorrect calibration may result.**

3. Place the indicated span calibration mass on the pan.
4. Press **>O/T<**, **-C-** is momentarily displayed, then the weight of the mass on the pan is displayed.
5. Remove the calibration mass from the pan. The balance is now calibrated and returns to the weighing mode.

### Linearity Calibration

1. With the balance OFF, press and hold **>O/T<** until **MENU** is displayed, then release it and **UNITS** is displayed. Press **Mode Off**, **LIN** is displayed.
2. Press **>O/T<**, **-C-** is displayed followed by the value of the first mass which must be placed on the pan.
3. Place the required mass on the pan and momentarily press **>O/T<**, **-C-** is displayed followed by the value of the next mass to be placed on the pan.

**Do not disturb the balance while -C- is displayed.**

4. Place the second required mass on the pan and momentarily press **>O/T<**, **-C-** is displayed. When the weight on the pan is displayed with the stability indicator, the balance is calibrated and returns to the weighing mode.
5. Remove the calibration masses from the pan.

## CARE AND MAINTENANCE

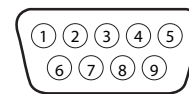
To keep the balance operating properly, keep the housing and platform clean. If necessary, a cloth dampened with a mild detergent may be used. Keep calibration masses in a safe dry place.

## RS232 COMMAND DATA TABLE

Command Character	Description
P	Print command
T	Tare command
?	Displays current mode
XS	X=0 (zero) Stable off
XS	X=S Stable on (default setting in balance)
XS	X=A Auto print on stability

**NOTE:** Print commands entered through the computer are temporary. When the balance is turned off, it will return to balance menu settings when turned on again.

1	N/C
2	Data Out (TXD)
3	Data In (RXD)
4	N/C
5	Connected to pin 8
6	N/C
7	Ground
8	Connected to pin 5
9	N/C



## TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	REMEDY
No Display.	Power Adapter not connected.	Connect AC Adapter.
Incorrect weight reading.	Balance out of calibration.  Balance was not rezeroed before weighing.	Calibrate the balance.  Press <b>&gt;O/T&lt;</b> with no weight on the pan, then weigh item.
Calibration procedure does not work.	Incorrect calibration masses being used.	Use correct masses.
Unable to display weight in a particular weighing unit.	Weighing unit not activated in menu.	Use Units menu to set desired units ON (see menu).
Balance won't store selections made in menu.	END selection was not used to exit menu.	You must use END to exit each menu and save selections.



## Error Codes

When a problem occurs using the balance, the display will indicate an error code. Review the listed codes and follow instructions to correct the problem.

**Err 2.0** Stability error. Check if balance is located near vibrating equipment or if air currents are affecting it.

**Err 3.0** Calibration error (wrong mass). Incorrect or no calibration mass used when performing calibration procedure. Error will flash momentarily, then balance will use previous calibration data. Recalibrate correctly.

**Err 4** Invalid data checksum in type or adjust data. Return balance for servicing.

**Err 6.0** Parts counting error - Average piece weight is less than 1d. Balance shows error then exits parts counting.

**Err 8.4** Over or under load. Sample being weighed exceeds the capacity of the balance. If error occurs when the sample is within the balance capacity, balance may be incorrectly calibrated. An underload such as the pan off of the balance could also display Err 8.4. Recalibrate the balance.

**Err 9** Internal data error. Return balance for servicing.

**Err 9.8** Invalid checksum in calibration or setup data. The balance may need recalibration, particularly linearity calibration. If the error persists after recalibration, the balance must be serviced.

## SPECIFICATIONS

Capacity	65g <sup>(1)</sup>	110g <sup>(1)</sup>	210g <sup>(1)</sup>	150g <sup>(1)</sup>	210g <sup>(1)</sup>	310g <sup>(1)</sup>	410g <sup>(1)</sup>	410/100g <sup>(1)</sup>	510g	1500g	2100	3100g	4100/1000g	4100g
Readability	0.1mg			0.001g			0.01/0.001g	0.01g			0.1/0.01g	0.1g		
Weighing units/modes	g, kg, mg, ct, N, lb, oz, ozt, gn, dwt, momme, mesghal, 3 taels, ticals, Parts Counting													
Repeatability (Std. Dev.)	0.1 mg			0.001g			0.01/0.001g	0.01g			0.1/0.01g	0.1g		
Linearity	±0.2mg	±0.3mg	±0.002g			±0.01g/0.001g	±0.01g	±0.02g			±0.1/0.01g	±0.1g		
Tare Range	Full capacity by subtraction													
Stabilization Time (seconds)	3 Seconds													
Sensitivity Drift	4ppm/°C			10ppm/°C										
Operating Temp Range	50° to 86° F/10° to 30° C													
Power Requirements	8 - 14.5V 50/60Hz 6VA or 9.5 - 20V 6W													
Calibration	External Digital													
Display (in/cm)	LCD (1.2/3 high)													
Pan Size (in/cm)	3.5/9 dia.			3.9/10 dia.				7.1/18 dia.						
Draft shield clearance height	9.3/23.6 above pan (in/cm)			6.8/17.25										
Dimensions (WxHxD) (in/cm)	8.5x14.3x13.5/ 21.7x36.3x34.3			8.5x12.3x13.5/ 21.7x31x34.3				8.5x4.3x13.5/21.7x11x34.3						
Net Wt (lb/kg)	12.5/5.7			10/4.5				8.5/3.9						
Shipping Wt (lb/kg)	21/9.5			16/7.3				14/6.4						
Item No.	AR0640	AR1140	AR2140	AR1530	AR2130	AR3130	AR4130	ARRV70	AR5120	ARA520	ARB120	ARC120	ARRW60	ARD110

Notes 1. 65 g through 410 g balances include a three door draft shield.

2. Some models are not available in all countries.

## Admissible ambient conditions

Temperature range:	Use only in closed rooms 10 °C to 30 °C
Atmospheric humidity:	Maximum relative humidity 80% for temperatures up to 31 °C decreasing linearly to 50% relative humidity at 40 °C.
Altitude:	Up to 4000m
Voltage fluctuations:	-15% +10%
Installation category:	II
Pollution degree:	2
Power supply voltage:	8-14V ac, 50/60Hz, 6VA or 9.5-20V dc, 6W
Power Adapter:	AP3405 120V, 60Hz 10W AP3405E 230V, 50Hz 80mA AP3405B 240V, 50Hz 80mA

**PARTS INFORMATION**

If you require replacement parts or would like to purchase accessories, refer to addresses and phone numbers below.

**REPLACEMENT PARTS**
**AC Adapters:**

	<b>Part No.</b>
US/Japan 100 V	11103743
US 100-120 V	11103741
Europe 220-240 V	11103740
UK 220-240 V	11103742
Table version 220-240 V Reqs. sep. line cord, Aus.	11103745
Line cord for above	76199-01
Table version 220-240 V Reqs. sep. line cord, US	11103745
Line cord for above	6569-00
Euro/Germany, Belgium, France 220-240 V	11103744

Pan for 65 g, 110 g, 210 g, 3.5" (9 cm) dia.	12106739
Pan for 150 g, 310 g, 410 g 3.9" (10 cm) dia.	12105372
Pan for 510 g to 4100 g, 7.1" (18 cm)	12105370

**ACCESSORIES**

	<b>Part No.</b>
20 g Calibration Mass	49024-11
50 g Calibration Mass	49054-11
100 g Calibration Mass	49015-11
200 g Calibration Mass	49025-11
500 g Calibration Mass	49055-11
1 kg Calibration Mass	49016-11
2 kg Calibration Mass	49026-11
Security Device	76288-01
Impact printer	SF42
In-Use Cover	400302-010

**Attention:**

If you have to dispose of the instrument, contact your Ohaus agency.

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**LIMITED WARRANTY**

Ohaus products are warranted against defects in materials and workmanship from the date of delivery through the duration of the warranty period. During the warranty period Ohaus will repair, or, at its option, replace any component(s) that proves to be defective at no charge, provided that the product is returned, freight prepaid, to Ohaus.

This warranty does not apply if the product has been damaged by accident or misuse, exposed to radioactive or corrosive materials, has foreign material penetrating to the inside of the product, or as a result of service or modification by other than Ohaus. In lieu of a properly returned warranty registration card, the warranty period shall begin on the date of shipment to the authorized dealer. No other express or implied warranty is given by Ohaus Corporation. Ohaus Corporation shall not be liable for any consequential damages.

As warranty legislation differs from state to state and country to country, please contact Ohaus or your local Ohaus dealer for further details.





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