

Traveler™ Scales

Instruction Manual

1. INTRODUCTION

This manual contains installation, operation and maintenance instructions for the Traveler Scales. Please read the manual completely before using the scale.

1.1 Safety Pre cautions

Please follow these safety precautions:

- Verify that the Power Adapter input voltage matches the local power supply voltage.
- Use the scale only in dry locations .
- Do not operate the scale in hostile environments.
- Do not drop loads on the pan .
- Do not place the scale upside down on the pan .
- Service should be performed only by authorized personnel.

1.2. Controls

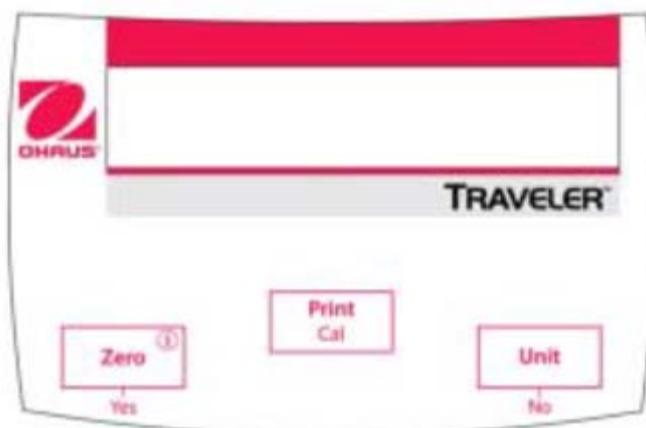


Figure 1-1 . Controls.

TABLE 1-1. CONTROL FUNCTIONS

Key Name	Function
On-Zero Off Yes	<ul style="list-style-type: none"> • Primary function (Short Press) – If scale is Off, turn On. If scale is on, perform Zero/Tare function
	<ul style="list-style-type: none"> • Secondary function (Long Press) – Turn scale Off
	<ul style="list-style-type: none"> • Menu function – (Yes) This key is used to accept the currently displayed setting
Print Cal	<ul style="list-style-type: none"> • Primary function (Short Press) – Send the current display value to serial port if installed
	<ul style="list-style-type: none"> • Secondary function (Long Press) – Starts Span calibration as available in Menu

Key Name	Function
Unit No	<ul style="list-style-type: none"> Primary function (Short Press)– Advances to next available unit
	<ul style="list-style-type: none"> Menu function – (No) This key is used to reject the displayed setting and advance to next available setting

2. INSTALLATION

2.1 Package Contents

- Scale
- Pan
- Draft Shield
- Power Adapter
- Calibration Weight (on some models, see Table 6.1)
- Instruction Manual
- Warranty Card

2.2. Location

Use the scale on a firm, steady surface. Avoid locations with excessive air currents, vibrations, heat sources, or rapid temperature changes.

2.3. Transportation Lock, Calibration Lock & Pan Installation

Before using the scale the Transportation Lock must be released. At the bottom of the scale slide the locking pin to the  position. See Figures 2-1.

If the scale is to be calibrated by the user ensure that the Calibration Lock is set to  position. See Figure 2-2.

Install the metal pan over the plastic sub-platform.

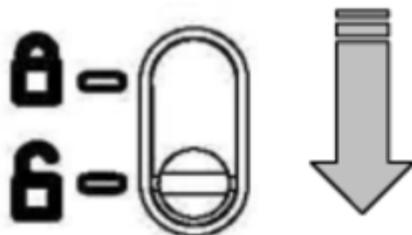


Figure 2-1. Release Transportation Lock

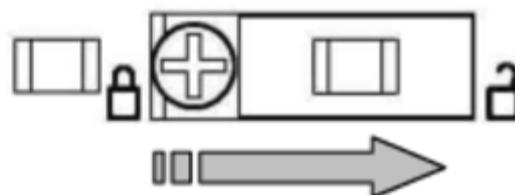
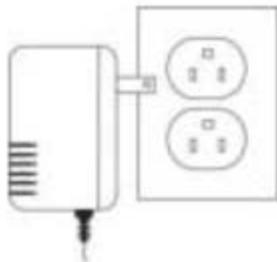


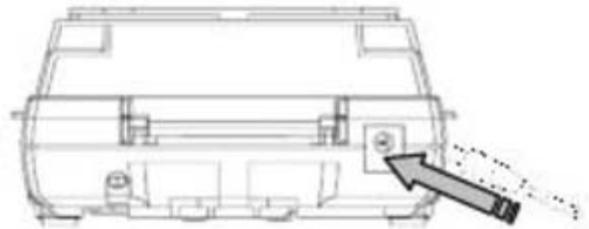
Figure 2-2. Release Calibration Lock

2.4 Connect Power

A Power Adapter is used to power the scale. Connect the Power Adapter to the power outlet (see Figure 2-3) and the power plug to the back of the scale (see Figure 2-4)



For use only with UL or CSA Certified (or equivalent approved) power adapter, which is a Class 2 or a Limited Power Source device.

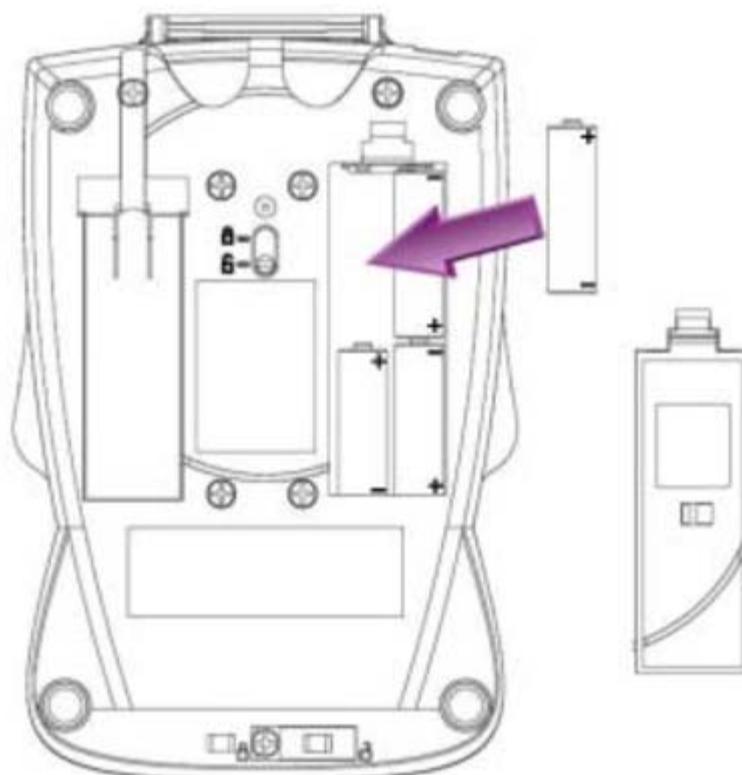


Figures 2-3, Power Adapter

Figure 2-4, Power Plug

2.5 Battery Installation and Use

The scale may also be powered by batteries. Remove the battery cover and install four alkaline AA (LR6) type batteries, (not included). Refer to Figure 2.5 to properly install the batteries. Under battery power a battery symbol is shown on the left side of the display. The Auto-Off setting is useful for conserving battery power, see section 4.2.1.



Figures 2-5, Battery Installation

2.6 Initial Calibration

Power on the scale by pressing **On-Zero**. Allow at least one minute for the scale to stabilize before calibrating. Press and hold the **Print/Cal** button until [CRL] is displayed. The display flashes [-C-] while zero reading is taken. The display flashes the required span mass. Put the indicated calibration mass on the pan and press **Yes**. The display flashes [-C-]. When calibration is complete, [done] is displayed.

Note: Calibration is also available in the Setup menu, see section 4.2.1.

3. OPERATION

Some weighing Units of measure may initially be unavailable. They can be enabled in the Main menu Unit [U.n. t.], see section 4.

3.1 Draft Shield

The draft shield was designed with an easy to remove center piece which can be used as a high quality sample tray. Even with the center piece removed the draft shield will provide increased protection from rough environments while maintaining weighing speed. To remove the center piece, rotate counter-clockwise. See Figure 3-1. With the sample tray firmly in place the unique shape of the draft shield also allows for the efficient stacking of one scale on top of another.

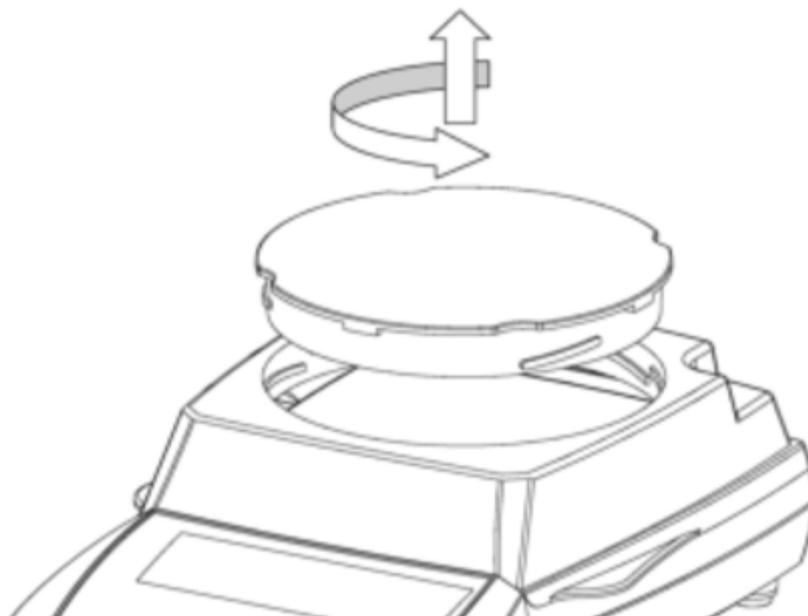


Figure 3.1, Sample Tray Removal

3.2 Weighing Mode

Press **Unit** to advance to next available weighing Unit.

Press **Zero** to zero the scale and then place objects to be weighed on the pan.

4. SETTINGS

The Settings allows the user to customize the scale.

4.1 Menu Structure

Table 4-1 illustrates the menu structure.

TABLE 4-1 MENU

S.E.t.u.P		U.n.i.t.		E.n.d.
R-OFF	On OFF	U.n.i.t.	g On OFF	Press Yes or No
SPRN	Press Yes or No	U.n.i.t.	N On OFF	
L.in	Press Yes or No	End	Press Yes or No	
End	Press Yes or No			

Note:

Unit	Symbol	Factor
Gram	g	1
Newton	N	9.806e-3

Default menu settings are shown in **bold**.

4.2 Menu Navigation

Main level menus are identified by decimal points between each letter, for example [S.E.t.u.P].

Enter Menu: With the scale off, press and hold the **On** button. Continue holding the **On** button until [S.E.t.u.P] is displayed. Each main menu is entered by pressing **Yes**. Advance to the next main menu by pressing **No**.

Changing Settings: Within each main menu are sub-menus. Enter each sub-menu by pressing **Yes**. Advance to the next sub-menu by pressing **No**. To accept the displayed sub-menu setting, press **Yes**. To advance to the next setting, press **No**.

Menu Exit: The last item in each sub-menu is [End]. Press **Yes** to return to the main menu. The last item in the main menu is [E.n.d]. Press **Yes** to return to the previous weighing mode.

4.2.1 Setup Menu [S.E.L.U.P.]

The Setup menu contains the following sub-menus:

- Auto-Off** [A-OFF]: Auto Off settings: On **OFF**
Setting [On] will automatically turn the scale off after no activity is detected for 4 minutes.
- Span Calibration** [SPAN]: Uses two weight values: Zero and a value at or near the full capacity of the scale. Span calibration should be performed if the scale is repositioned or when the room temperature changes significantly.
- Linearity Calibration** [L.C.]: Uses three weight values: Zero, a mid-range value and full capacity. Generally this calibration is not required unless testing shows that the linearity error exceeds the linearity tolerance in the specification table. Accuracy of weights is important to maintain weighing integrity.

4.2.2 Unit Menu [U.N. + L]

Each Weighing Unit may be individually set to On or OFF.
See Table 4-1 for the symbols associated with each Unit or Mode.

4.2.3 Other Menus

Additional Menus are available if a serial interface option is installed in the scale. These menus are explained within the user manual of each option kit.

4.3. Calibration Lock Feature

Sliding the switch fully to the  lock position prevents calibration of the scale. Using a paper or wire seal will physically secure the switch if required.



Figure 4-1. Locking and Sealing the Calibration Lock Switch.

4.4 Weigh Below Feature

The Weigh Below Hook is stored inside the battery cover. Thread the hook into the access hole at the bottom of the scale. Mount the scale onto an appropriate assembly that allows free working space below the hook. See Figure 4-2. **Note:** Never allow the scale to rest directly on the hook.

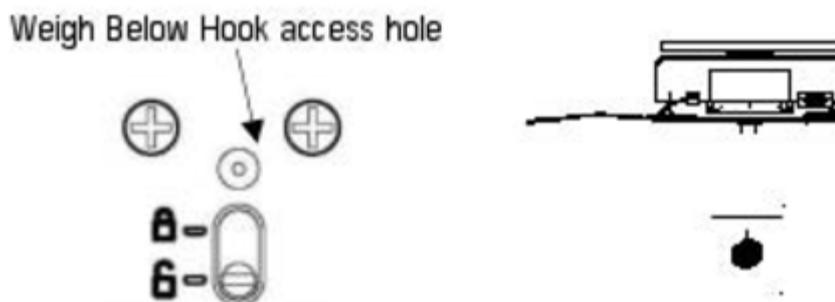


Figure 4-2. Setup for using the Weigh Below Hook.

5. MAINTENANCE

5.1 Troubleshooting

The following table lists common problems and possible causes and remedies. If the problem persists, contact Ohaus or your authorized dealer.

TABLE 5-1. TROUBLESHOOTING.

Symptom	Possible Cause	Remedy
Cannot turn on	<ul style="list-style-type: none"> No power to scale Empty or incorrectly installed batteries 	<ul style="list-style-type: none"> Verify AC adapter connections and voltage. Replace batteries, check polarity.
Poor accuracy	<ul style="list-style-type: none"> Improper calibration Unstable environment Transportation Lock is set Debris touching the pan Draft shield is touching the pan or sample. 	<ul style="list-style-type: none"> Perform calibration. Move scale to suitable location. Slide the pin to the unlocked position. Clean any debris next to or under the pan. Check that pan is fully seated, check sample height.
Cannot calibrate	<ul style="list-style-type: none"> Unstable environment Incorrect calibration mass Transportation Lock is set Calibration Lock switch is set 	<ul style="list-style-type: none"> Move the scale to a suitable location. Use correct calibration masses. Slide the pin to the unlocked position. Slide the switch to the unlocked position.
Err 1	<ul style="list-style-type: none"> Invalid Checksum data. 	<ul style="list-style-type: none"> Cycle scale off/on. Contact Ohaus or authorized dealer.
Err 2	<ul style="list-style-type: none"> Over-load or Under-load condition. Transportation Lock is set Improper calibration 	<ul style="list-style-type: none"> Verify pan is installed and/or excess load is removed from pan. Slide the pin to the unlocked position. Perform calibration.
Err 4	<ul style="list-style-type: none"> Invalid calibration mass. 	<ul style="list-style-type: none"> Verify correct calibration mass is being used.
Err 8	<ul style="list-style-type: none"> RS232 buffer is full. 	<ul style="list-style-type: none"> Cycle scale Off/On. Check RS232 settings in scale and computer when RS232 option is installed.
Err 9	<ul style="list-style-type: none"> Internal data error. 	<ul style="list-style-type: none"> Contact Ohaus or authorized dealer.
 (Flashing)	<ul style="list-style-type: none"> Battery power is low. 	<ul style="list-style-type: none"> Replace batteries soon.
ERR1 LOW	<ul style="list-style-type: none"> Battery power is too low for proper operation. 	<ul style="list-style-type: none"> Replace batteries.

5.2 Service Information

If the troubleshooting section does not resolve or describe your problem, contact your authorized Ohaus service agent. For service assistance or technical support in the United States call toll-free 1-800-526-0659 between 8:00 AM and 5:00 PM EST.

6. TECHNICAL DATA

6.1 Specifications

TABLE 6-1. SPECIFICATIONS

Model	TA152	TA302	TA301	TA502	TA501	TA1501	TA3001	TA5000
Capacity (g)	150	300	300	500	500	1500	3000	5000
Readability (g)	0.01	0.01	0.1	0.01	0.1	0.1	0.1	1
Linearity (d)	±1	±1	±1	±2	±1	±1	±1	±1
Repeatability (g)	0.01	0.01	0.1	0.01	0.1	0.1	0.1	1
Span Mass (g)	100*	200*	200*	300	300	1000	2000	3000
Linearity Masses (g)	100 150	200 300	200 300	300 500	300 500	1000 1500	2000 3000	3000 5000
Weighing Units	Gram, Newton							
Tare Range	To Capacity by Subtraction							
Stabilization Time	< 3							
Operating	50° - 104°F / 10° - 40°C							
Operating Humidity	30%-90%							
Pan Size (mm)	120 dia.					123 x124		

*Included with Scale

6.2. Accessories

TABLE 6-2. ACCESSORIES

ACCESSORY
RS232 Interface Kit
USB interface Kit
Specific Gravity Kit
Security Device
Auxiliary Display
Printers
Adapters, RS232 to Printer
Calibration masses

6.3 Drawings

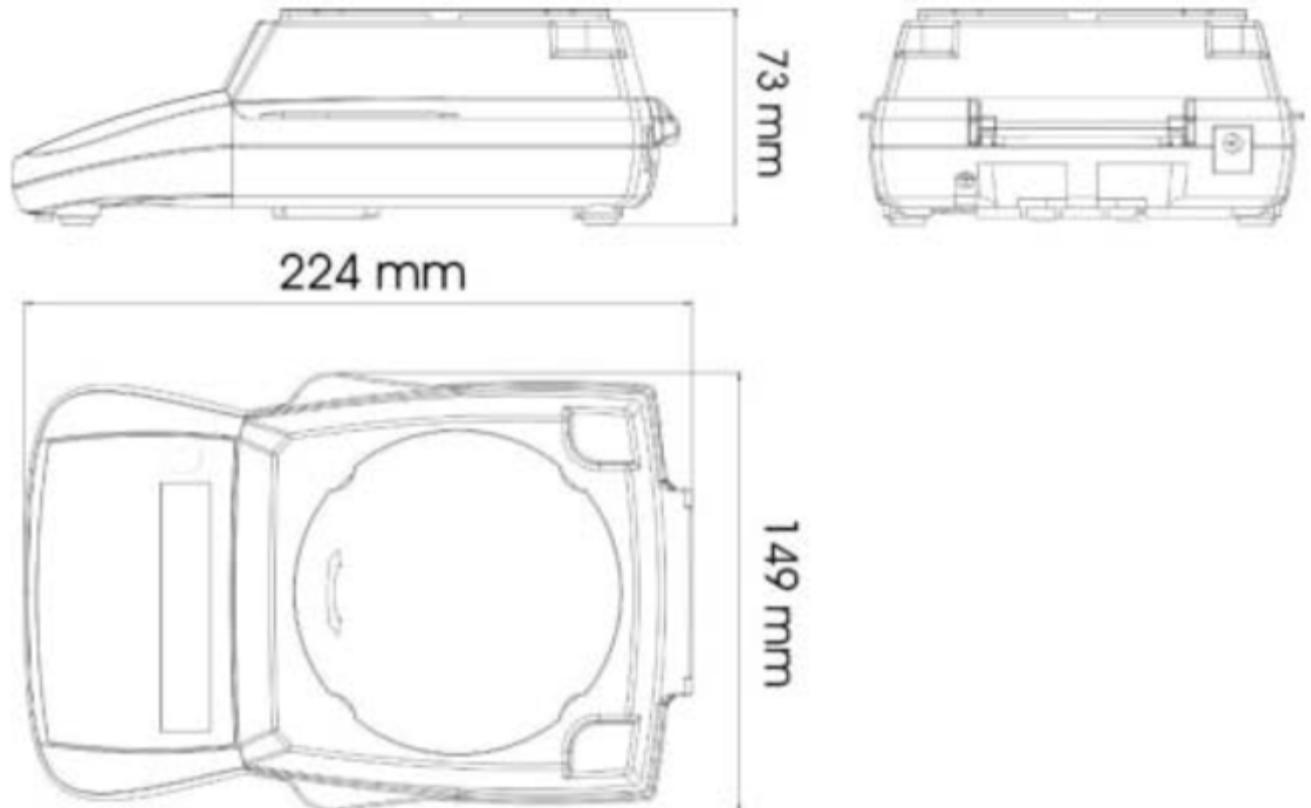


Figure 6-1. Overall Dimensions

6.4 Compliance

Compliance to the following standards is indicated by the corresponding mark on the product.



This product conforms to the EMC directive 2004/108/EC and the Low Voltage Directive 2006/95/EC.



AS/NZS4251.1 Emission; AS/NZS4252.1 Immunity



Disposal

In conformance with the European Directive 2002/96 EC on Waste Electrical and Electronic Equipment (WEEE) this device may not be disposed of in domestic waste. This also applies to countries outside the EU, per their specific requirements.

Please dispose of this product in accordance with local regulations at the collecting point specified for electrical and electronic equipment.

If you have any questions, please contact the responsible authority or the distributor from which you purchased this device.

Should this device be passed on to other parties (for private or professional use), the content of this regulation must also be related.

Thank you for your contribution to environmental protection.

FCC Note

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

Industry Canada Note

This Class B digital apparatus complies with Canadian ICES-003.

USB Interface

Instruction Manual

INTRODUCTION

The Interface Kit is a unique solution to the problem of connecting a balance to a computer using a Universal Serial Bus (USB). USB devices are categorized into classes such as disk drives, digital cameras, printers, etc. Balances do not have a commonly used class so the Ohaus USB interface uses a generic interface based on the RS232 serial standard.

Data sent from the balance to a computer is in USB format. The USB data is directed to a *virtual port*. This port then appears as an RS232 port to the application program.

When sending a command from a computer to the balance, the application program sends a command to the *virtual port* as if it were an RS232 port. The computer then directs the command from the *virtual port* to the computer's USB connector where the balance is connected. The Adapter Kit receives the USB signal and reacts to the command.

The USB Interface kit includes a CD with the software drivers to create the required *virtual port* on the computer.

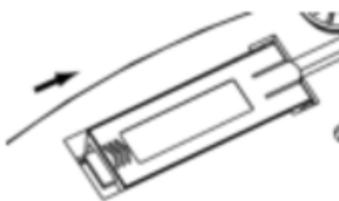
SYSTEM REQUIREMENTS

- PC running Windows 98®, Windows 98SE®, Windows ME®, Windows 2000®, Windows XP® or Windows 7®
- Available USB port (Type A, 4-pin, female)

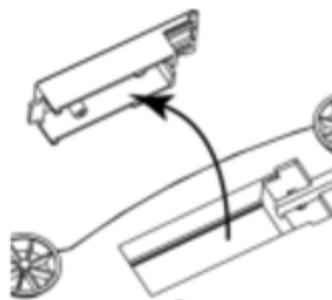
INTERFACE INSTALLATION

Install the interface module on the underside of the balance as shown.

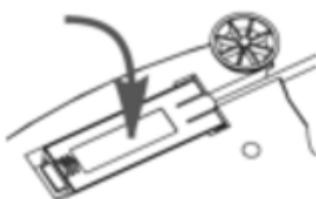
Note: The appearance of your model may be different.



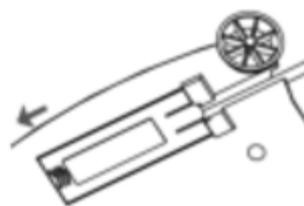
1. Slide Blank Cover to rear.



2. Remove the Blank Cover.



3. Install Interface Module.



4. Slide Module forward.

USB CONNECTION

The USB cable terminates with a 4-pin, male, USB Type A connector.

1. Power on the computer and verify that the USB port is enabled and working properly.
2. Plug the cable's USB connector into the computer's USB connector. Windows® should detect a USB device and the New Hardware Wizard will be initialized.

VIRTUAL PORT SOFTWARE INSTALLATION

1. Insert the supplied CD into the CD drive.

Different versions of Windows® have slightly different steps to load the driver that is on the CD. In all versions the New Hardware Wizard guides you through the required steps to select the driver that is located on the CD.



Example of Windows XP Hardware Wizard

2. After clicking Finish, the virtual port should be ready for use.

Windows® typically adds the virtual port in sequence after the highest number COM port. For example, on PC's equipped with up to 4 COM ports, the virtual port will be COM5.

When using the USB interface with programs that limit the number of COM port designations (e.g. Ohaus Mass Tracker allows only COM1, 2, 3, & 4), it may be necessary to assign one of these port numbers to the new virtual port. This can be done in the Port Settings of the Device Manager utility, found in the Windows Control Panel.

BALANCE SETUP

- A) The interface is preset to communicate using the following settings: 2400 baud, 7 bit, no parity, no handshake. If different settings are desired, it will be necessary to change either the balance settings, or the computer settings.
- B) Upon installation of the interface, the balance will recognize the USB Interface and add relevant items to the menu. Configure the balance to the desired USB and printing parameters; refer to the balance User Manual for assistance in using the menus.

PRINT

Stable
On, Off
A-Print
Cont, On, Stbl, On Acc*, 5sec, 15sec,
30sec, 60sec, off
End
Yes, No

*Note: Print and USB menu selections may vary between the different balance series.

USB

USB
On / off
Baud
600, 1200, 2400, 4800, 9600, 19200
Parity
7-even, 7-odd, 7-none, 8-none
Handshake
None, Xon-Xoff, RTS-CTS
END
Yes, No

SETUP DEFINITIONS

PRINT / Stable - On
PRINT / Auto Print - Continuous
PRINT / Auto Print - On Stable
PRINT / Auto Print - (xx) sec
PRINT / Auto Print - Off
USB / USB - Off
USB / Baud, Parity, Handshake

Balance transmits stable data only.
Balance repeatedly sends data as fast as possible.
Balance automatically outputs data upon stability.
Balance sends data every (xx) seconds.
Only sends data when PRINT is pressed.
Turns interface off, saving battery power.
Set parameters to match printer or computer.

OPERATION

USB OUTPUT

With the Adapter installed the balance will operate in one of the following three ways:

- USB = on, Auto Print = off, Stable = on or off
Pressing PRINT will send the display data based on the settings in the Menu.
If Stable is set to On, the balance will wait for a stable reading before sending data.
- USB = on, Auto Print = on, Stable = on or off
The balance will automatically send data.
If Stable is set to On, only stable values will be sent.
- USB = off
The interface is turned off. During battery operation, this saves significant power.

Data sent from the interface is in standard ASCII format terminated with a [CRLF] (carriage return-line feed). The output format is as follows:

[weight]	10 characters	(right justified)
[space]	1 character	
[unit]	5 characters max	(left justified)
[space]	1 character	
[stability indicator]	1 character	"?" when unstable, blank when stable
[space]	1 character	
[legend]	10 character	TOTAL, hh:mm:ss (time interval), etc.
[CR]	1 character	
[LF]	1 character	

Output examples: (Note: * and _ indicate spaces)

```
*****192.21_g
*****0.01_g_?

*****0.01_g__00:00:00
*****176.30_g_?_00:00:15
*****192.08_g__00:00:30

*****192.21_g
*****207.80_g_TOTAL
```

- Manual, Continuous or On-Stable printing
unstable reading

- Interval Printing (example: 15sec interval)
unstable reading

- Accumulate Mode (Manual printing only)

USB INPUT

The balance will respond to various commands sent via the interface adapter. Terminate the following commands when with a [CR] or [CRLF].

Scout Pro and Traveler Commands

- ? print current mode
- 0A turn Auto-print off
- SA Auto-print on, prints on stability
- CA Continuous Auto-print
- (n)A Auto-print on 1 to 3600 second intervals (n = 1 to 3600)
- C perform span calibration
- L perform linearity calibration
- 0M gram mode
- 1M ounce mode
- 2M troy ounce mode
- 3M pennyweight mode
- 4M parts counting mode
- 5M pound mode
- T tare balance, same as pressing 0N-ZERO
- V print software version
- (Esc)R reset balance to factory defaults
- P same as pressing PRINT
- LE print last error code, i.e. [Err 0]
- 0S print unstable data

1S print stable data only

Navigator Commands

- P** same as pressing **Print**
- SP** print stable weight only
- IP** immediate print of displayed weight (stable or unstable)
- CP** Continuous print of weights
- SLP** Auto-print stable non-zero weight only
- SLZP** Auto-print stable non-zero weight and zero reading
- xP** Auto-print on 1 to 3600 second intervals (x = 1 to 3600)
- 0P** turns auto-print off
- PM** print current mode
- M** advance to the next enabled mode
- PU** print current unit
- U** advance to the next enabled unit
- T** same as pressing **Tare**
- Z** same as pressing **Zero**
- PV** print software version

AUTO-PRINT OPERATION

Once Auto-Print is activated in the menu, the balance will send data as required. To temporarily stop Auto-Printing, press the PRINT key. If there is data in the print buffer the printer will finish printing this data. A second press will resume Auto-Printing.

COMPLIANCE

This accessory has been tested and complies with the approvals listed in the applicable Instruction Manual.

Disposal



In conformance with the European Directive 2002/96 EC on Waste Electrical and Electronic Equipment (WEEE) this device may not be disposed of in domestic waste. This also applies to countries outside the EU, per their specific requirements.

Please dispose of this product in accordance with local regulations at the collecting point specified for electrical and electronic equipment. If you have any questions, please contact the responsible authority or the distributor from which you purchased this device.

Should this device be passed on to other parties (for private or professional use), the content of this regulation must also be related.

Thank you for your contribution to environmental protection.