

AP Series

BENCH SCALE

INSTRUCTION MANUAL

Instruction-AP-v.2.c 27.03.96.



A&D MERCURY PTY. LTD.

A.C.N. 007 556 809

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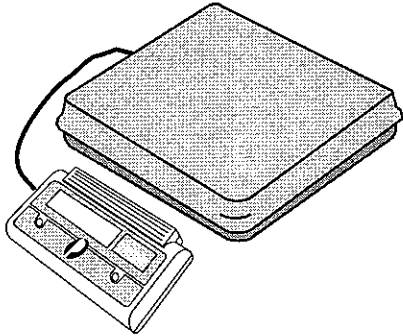
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AP Series • Section A

Introduction

Thank You For Your Purchase of an A&D Scale

Every care has been taken during the manufacturing process of this scale to ensure that it will perform accurately and reliably for many years.

Electronic Platform Scales are in one sense extremely simple products, that is they are very easy to use. In another sense they are rather complex in that they are high technology products. This manual will try to tell you in simple language how this scale works and how to get the most out of it in terms of performance.

The AP Series platform scale incorporates the latest advances in electronic and mechanical engineering and offers increased features and functions all at a reduced cost.

The AP Series scale is designed to be operated with an AC adapter, but may be operated on six AM3 ('AA' type) 1.5V dry batteries in the event of a power failure.

The AP Series scale uses a sharp, 22mm high LCD display. You can make sure that all of the display segments are working properly by pressing the **ON/OFF** key. The A/D converter is highly accurate and there is complete RFI shielding for the analog section.

Battery operation permits the scale to be operated anywhere. Continuous operation will be possible for between 50 to 100 hours on one set of batteries at 20°C/68°F (dependent on the type of batteries used).

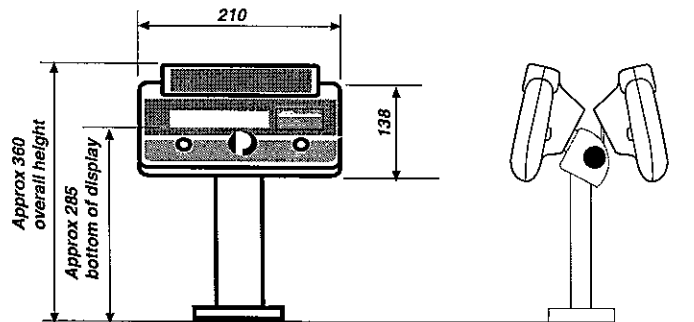
The weighing platform is of a rugged stainless steel type. A Dual RS-232C Interface is available for connection to External Devices such as E.P.O.S. and U.P.S.

Specifications

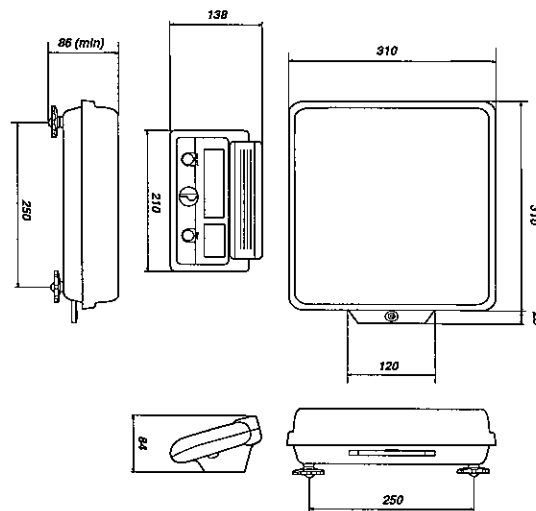
Capacity and Resolution	15 kg / 1.999 kg x 10g / 1g	30 kg / 1.999 kg x 10 g / 1 g
Calibration Weight	Adjustable 0.1 kg to 15 kg	Adjustable 0.1 kg to 30 kg
Pan Size	310 mm x 310 mm	
Weight	6 kg	
Power	9v DC from AC Adaptor or 6 x AM3 'AA' size Batteries	
Battery Life	Approx 50 hrs. manganese or 100 hrs. alkaline cells at 20°C	
Operating Temperature	-5°C ~ 35°C	

Specifications subject to change for improvement without notice.

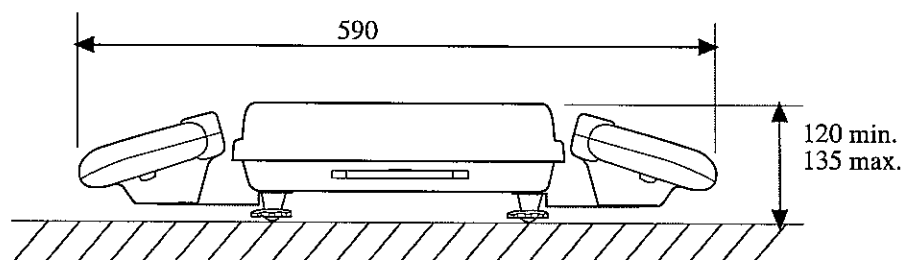
Version A - Column Mounted

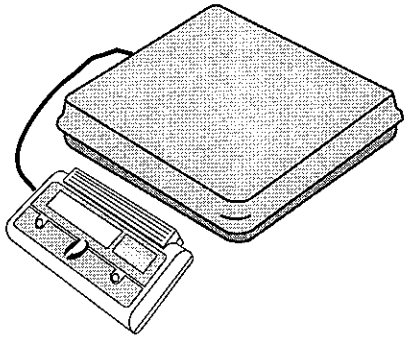


Version B - Remote Mount



Version C - Base Mounted





AP Series • Section B

Installation

Unpacking Instructions

Unpack the scale carefully and keep the packing material if you are likely to want to transport the scale again in the future.

The Packing List - Version A Column Mounted

- Weighing Platform
- Operator & Customer Displays mounted on column
- A.C. adaptor
- Two serial communications cables
- This instruction manual
- One set of batteries

The Packing List - Version B Remote Mounted

- Weighing Platform
- Operator & Customer Displays
- A.C. adaptor
- Two serial communications cables
- This instruction manual
- One set of batteries

The Packing List - Version C Base Mount

- Weighing Platform complete with Operator & Customer Displays, bracket mounted
- A.C. Adaptor
- Two serial communications cables
- This instruction manual
- One set of batteries

VERSION C

To remove the scale from the packing please, tilt the scale in the opposite direction to the cut-out in the packing, before lifting out.

Installing the AP Series Scale

Place the scale on a firm weighing table and turn the adjustable feet, until the level bubble shows that the scale is level. Position the Displays so the Operator Display (with On/Off and Zero keys) faces the operator and the Customer Display (no keys) faces the customer. Plug in the supplied AC/DC adaptor.

Best Conditions for Weighing

- o The Scale must be level (check the level bubble).
- o Best temperature is about 20°C/68°F at about 50% Relative Humidity.
- o The weighing table should be of a solid construction.
- o Corners of rooms are best as they are less prone to vibrations.
- o Don't install the scale in direct sunlight.
- o Clean the scale with mild soap and water (don't use solvents).

Column Installation - Version A

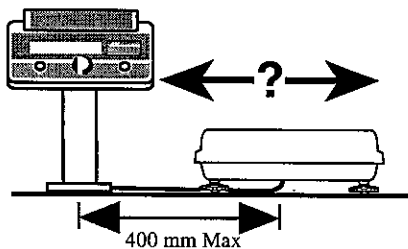
General

The Display Pods can be installed on a purpose built column (as supplied) or as stand alone Units. If the Display Pods are to remain column mounted then determine the positions of the Weighing Platform and Column. Also determine if the interconnecting cable is to pass through the counter or not.

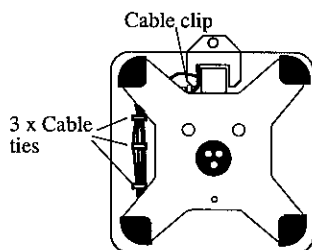
When the Platform and Column positions have been determined refer to the appropriate section below.

Note: If the Display Pods are to be used as stand alone units and removed from the column then refer to the appropriate section

Above Counter Installation

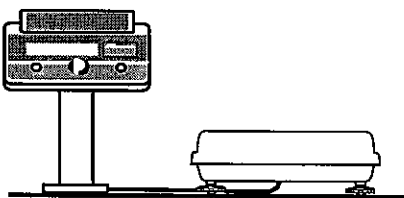


- 1) Determine the position of the column and weighing platform

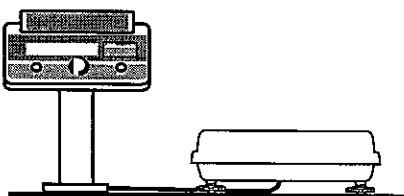


- 2) If the platform is required to be more than 400mm from the column, remove the top pan then pull out the excess cable, which is coiled up in the base, and cut the cable ties.

Note: If the cable ties are to be cut then ensure the cable isn't damaged.

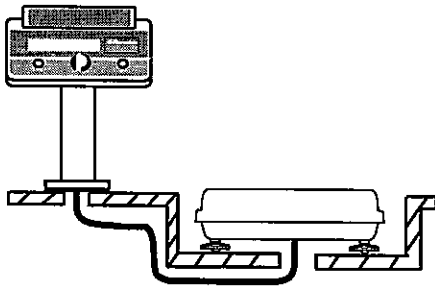


- 3) Position the platform and column and push any excess cable back up the column. Ensure the cable is positioned so it cannot be damaged during normal use.



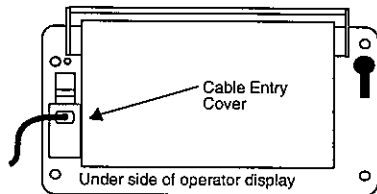
- 4) Secure the column to the counter by using appropriate securing screws or the adhesive tape supplied.

Below Counter Installation - Column Version A

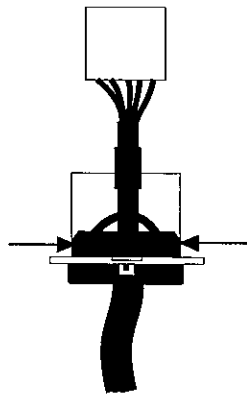


This diagram shows the completed installation.

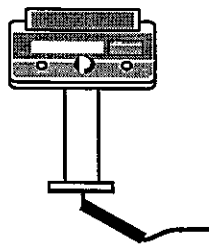
Follow the steps below.



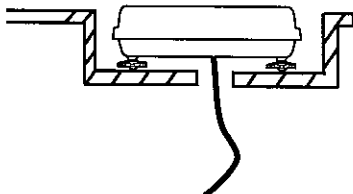
- 1) Unclip the loadcell cable entry cover, positioned on the underside of the Operator's Display Pod and locate the black cable gland.



- 2) Squeeze the 2 parts of the gland together and slide the gland out of the cover.

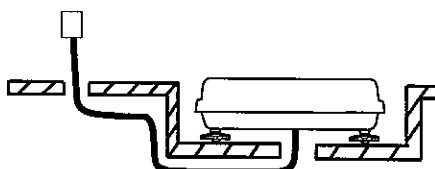


- 3) Pull the excess cable out of the bottom of the column and carefully cut the cable tie.

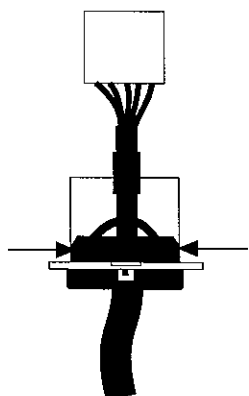


- 4) Pull the cable, complete with the connector, down through the column.

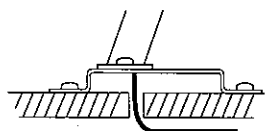
- 5) Drop the cable through the access hole in the counter and place the base in position.



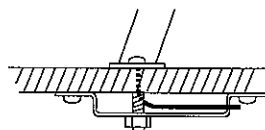
- 6) Feed the cable and connector under the counter and up through the column mounting hole.



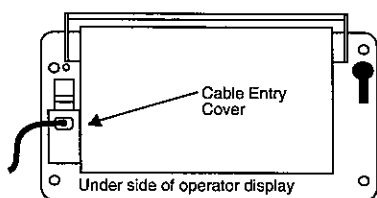
- 7) Carefully feed the cable and connector up the scale column and secure to the cable entry cover using the gland previously removed.



or



- 8) Ensure that the cable is not trapped at any point and secure the column to the counter top using appropriate securing screws, method 1 or 2, or the adhesive tape provided.



- 9) Finally level the basework and reconnect the cable connector to the operator's indicator and replace the cover.

Above Counter Installation - Remote Mount Version B

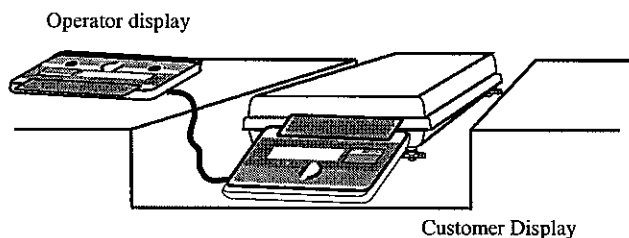
General

The remote display version of the AP scale comprises two indicator/display units, one for the operator and one for the customer. They are linked by a 1 metre long lead which is fixed at the operator indicator and connects to the customer display via a quick release connector. The operator indicator is connected to the base by a 400 mm long cable. The indicators can be mounted in various positions, to suit the counter, the limitations being:-

- 1) The maximum distance from the Operator display to the base is 3 metres (400 mm as supplied). See Item 2 on Page 7 for details on the extension of the cable.
- 2) The maximum distance from the Operator to Customer display is 1 metre.
- 3) The indicators must not be in contact with the side of the base.
- 4) The indicators should not be raised higher than the platform as large parcels may rest on the indicator causing inaccurate weighing.
- 5) The cables should run neatly without excess length and, if possible, be taped to the counter. Sharp edges should be avoided when running cables.
- 6) The scale must be level and secure on the counter.

Below Counter Installation - Remote Display

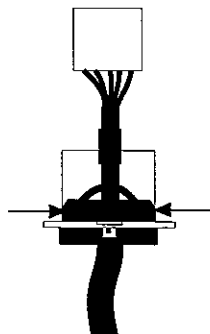
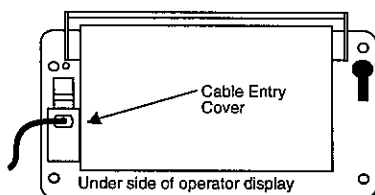
Above Counter



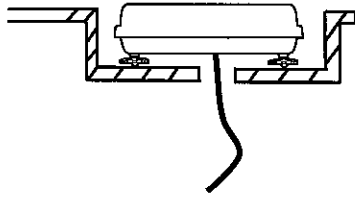
This diagram shows the completed installation.

Follow the steps below.

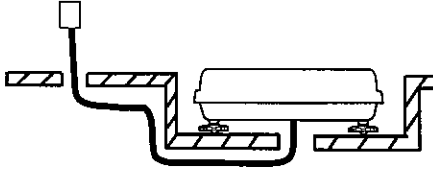
Below Counter



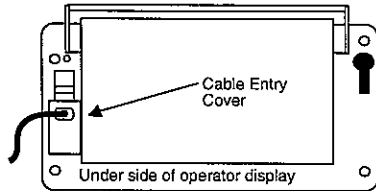
- 1) Unscrew the operator's display from the bracket and then unclip the loadcell cable entry cover, positioned on the underside of the Operator's Display Pod. Locate the black cable gland.
- 2) Squeeze the 2 parts of the gland together and slide the gland out of the cover.



- 3) Drop the base cable through the access hole in the counter top and place the base and the customer's display in position on the counter.

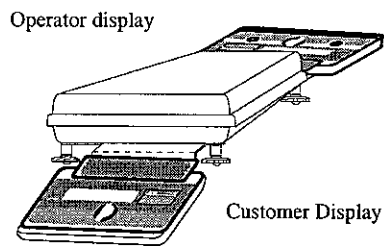


- 4) Feed the cable and connector under the counter and up through the operator indicator access hole.



- 5) Secure the cable to the cable entry cover using the gland previously removed. Finally re-connect the cable connector to the indicator and replace the cover.

Above Counter Installation Base Mount Version C

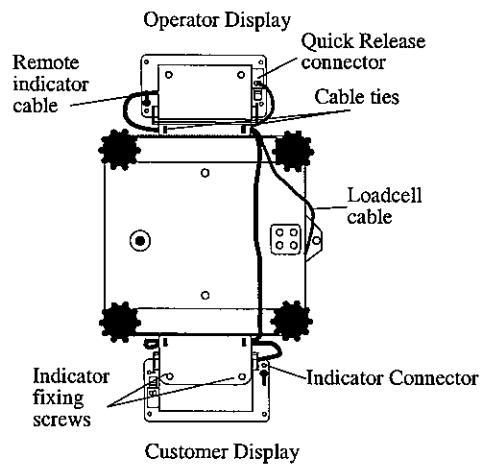


General

The base mounted version is a one piece assembly incorporating the operator and customer displays. To install simply mount in the required position - level the scale and connect the A.C. adaptor to the operator display.

Note:

If the operator display is required remote to the base please follow this procedure.



Underside of scale

- Disconnect the remote indicator cable
- Cut the two cable ties
- Pull out the quick release connector
- Remove the two screws securing the display to the bracket

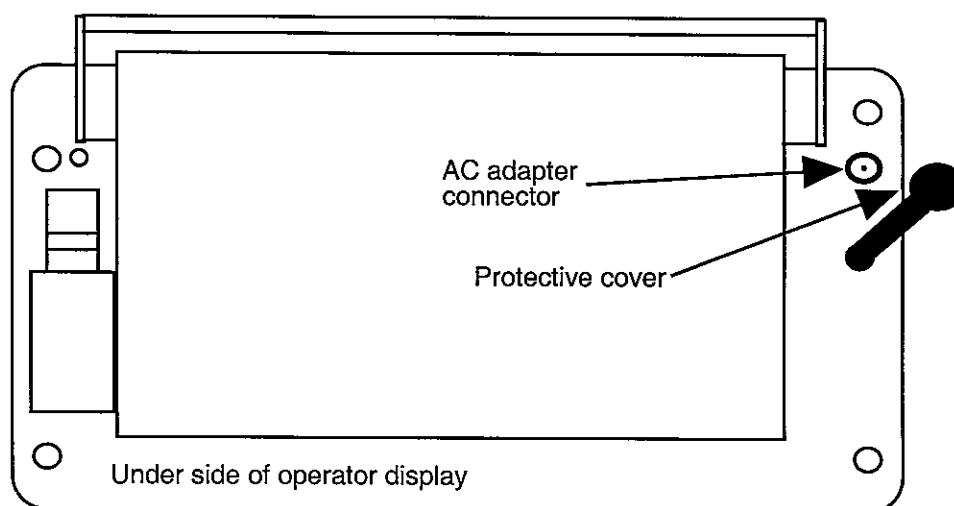
Powering The Scale

Your AP Series Scale can be powered in either of two ways.

1. Mains Power by using the AC Adaptor supplied with your Scale.
2. Battery Power by installing six "AA" size Batteries.

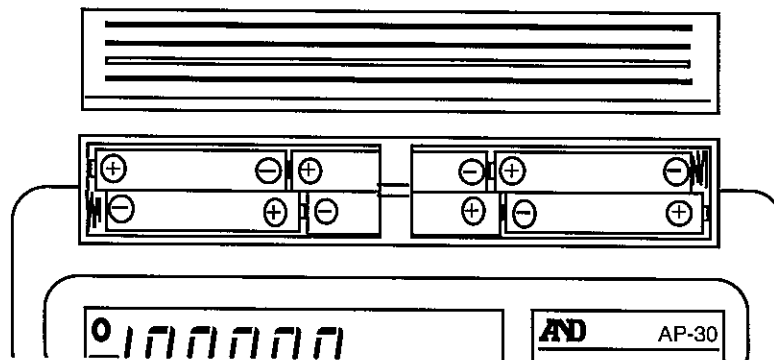
Determine your preferred option and follow the appropriate Instructions listed below.

Using the Mains Adaptor



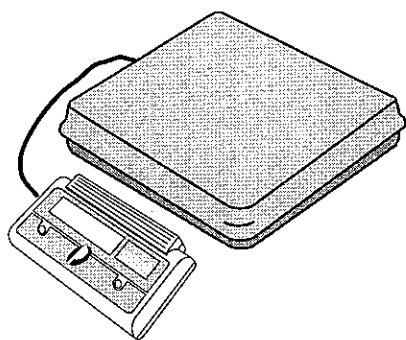
To operate your Scale using mains power first unplug the protective cover found on the underside of the Operator's Display. Now insert the AC Adaptor's Jack Plug into the AC adaptor connector. Plug the AC Adaptor into your mains socket and then refer to the Weighing Section (section C) on how to operate your Scale.

Using Batteries



Battery Installation: Remove the cover at the top of the Operator's Display by lifting it straight up. Insert the center batteries first by slipping them under the center bridge. Then insert the remainder using care to note the polarity. Place the cover back in place and press down to seat it.

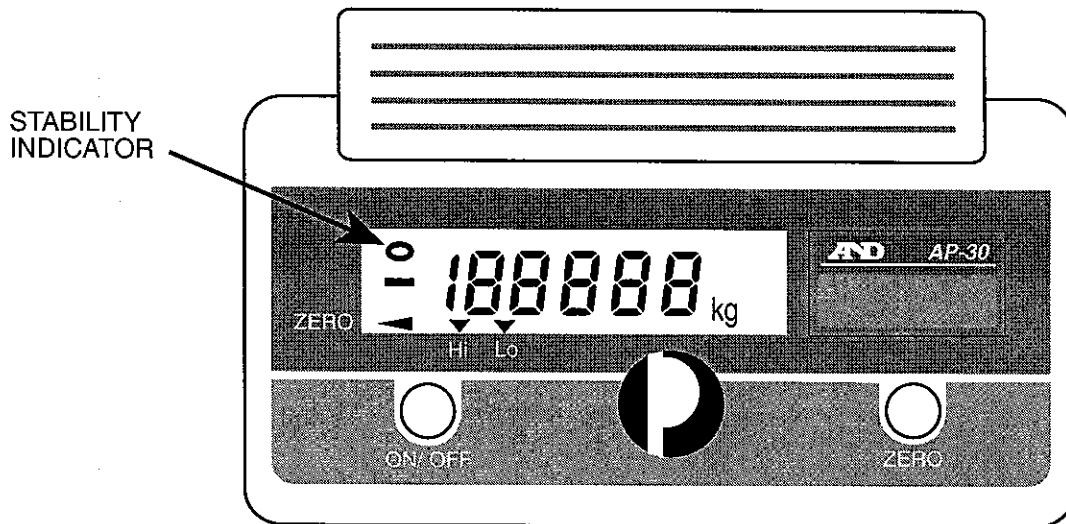
Note: For the Scale to operate using Battery power the AC Adaptor must be disconnected from the Operator's Display. Ensure the AC Adaptor has been disconnected and then refer to the Weighing Section (section C) on how to operate your Scale.



AP Series • Section C

Weighing

Understanding the Display



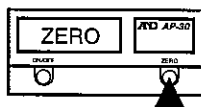
The ON/OFF Key



After pressing the **ON/OFF** key, you will see all of the segments appear for a couple of seconds.

- Starting at the left end of the Display you will see a circular Stability Indicator, a minus weight Display Symbol and a triangular ZERO Indicator. Next you can see the Main Display "18 8.8.8.8". Below the Main Display you'll see the triangular High and Low Range Indicators.
- On the right you will see the abbreviation "kg" for kilograms.
- The Display will then start a count down sequence. During this sequence the Scale will check all of its internal functions.
- After a few moments the circular Stability Indicator, Zero Indicator, Main Display (reading zero) and a unit ("kg") will remain.
- "Lb" (large L) will be displayed on the Main Display if the power in the batteries is too low for reliable weighing and "E" will be displayed if the Scale is overloaded.

The ZERO Key



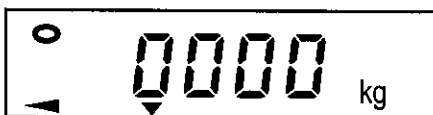
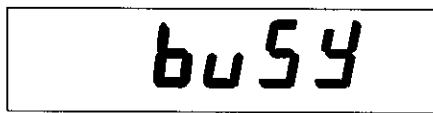
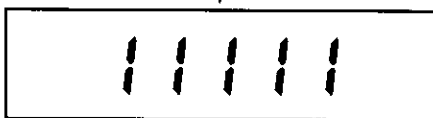
- The **ZERO** key is only valid if the Stability Indicator is on.
- The **ZERO** key returns the Scale to zero over the entire span range.

The INDICATORS

INDICATOR	WHAT IT'S USED FOR
	Stability of the Weighing System
	Sign of Item being weighed
	Centre of Zero Indicator

High Range Indicator (Indicates Weighing in the high range)	Low Range Indicator (Indicates Weighing in the low range)

Weighing



Turning On the Scale

- 1) Turn the Display On via the **ON/OFF** key.

- 2) The Scale will perform a display test. Ensure all the Display segments turn On then Off correctly

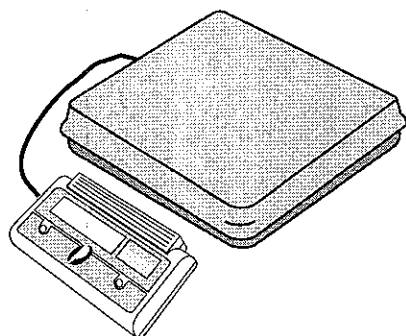
- 3) The Scale will then perform a count down sequence.

During this sequence the internal workings of the Scale are checked.

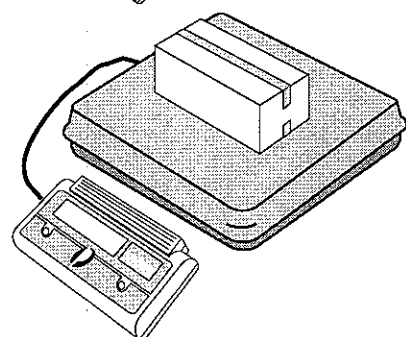
- 4) At the completion of the countdown sequence display will show 'busy' as the Scale acquires Zero. (This may take longer if the scale has just been switched on from cold)

- 5) Once Zero has been acquired the Scale is ready for use.

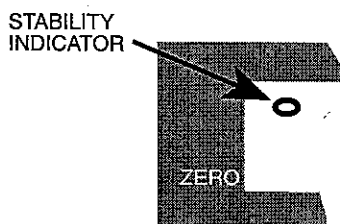
Simple Weighing



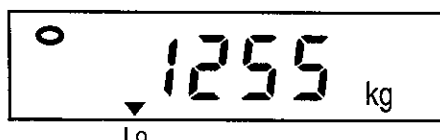
- 1) While nothing is on the weighing Platform, press the Zero key to zero the Display.



- 2) Place the Item to be weighed on the weighing Platform..



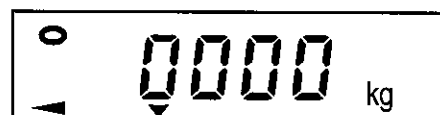
- 3) Wait for the Stability Indicator to turn "On".



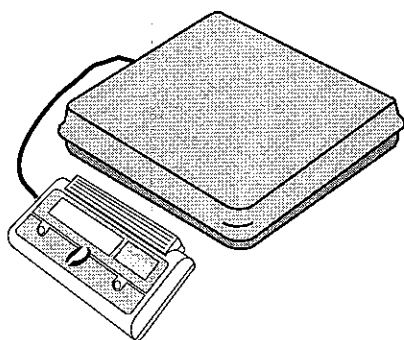
- 4) If the Item weighs less than 2 kg then the Display will resolve to three decimal places and the Low Range Annunciator will illuminate.



- 5) If the Item weighs greater than 2 kg then the Display will resolve to two decimal places and the High Range Annunciator will illuminate.



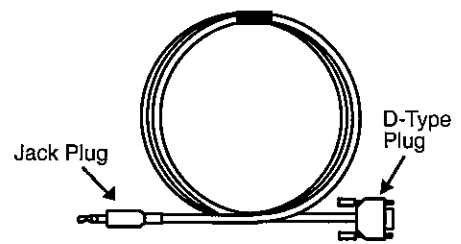
- 6) When the Item is removed from the weighing Platform the display will return to a zero reading. Note this may initially be in the high range.
- 7) The Scale is now ready for the next Item to be weighed



AP Series • Section D

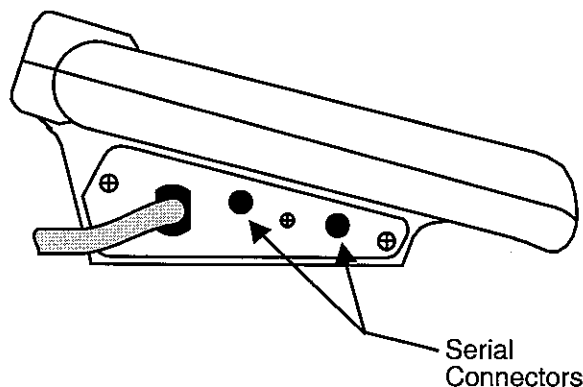
Serial Outputs

The Scale is supplied with 2 serial communication cables, as standard. Each are terminated with a stereo 3.5mm Jack Plug at one end and a 9 pin (25 pin for NZ) female D-Type Connector at the other. These are suitable for connection to an Electronic Point Of Sale (EPOS) Unit and a Postal Sales Unit (PSU).



Note: For the Postal Charge Calculator (PCC) Unit the Option OP-02 Cable is required.

Both serial channels are identical so two Workstations (e.g. EPOS) may be connected to the Scale at any one time.

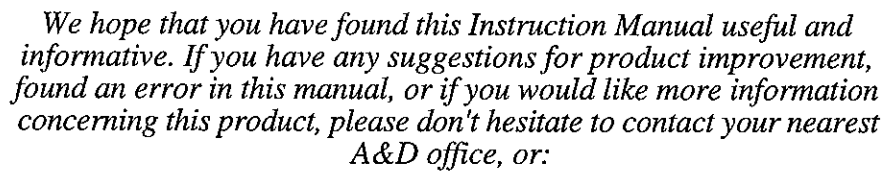


To connect your Workstation(s) to the Scale, first remove the securing tape wrapped around the serial cable. If using a knife for this purpose, ensure you do not cut the serial cable itself. Now plug the D-Type Connector into your Workstation. Run the serial cable to your Scale and insert the Jack Plug into one of the serial connectors, found on the left hand side of the Operator's Indicator.

Important !!!

Do not connect the D-Type Connector to your EPOS or PSU without consulting Australia (New Zealand) Post's EPOS Department.

Memoranda

[illegible]

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