DETECTO ®

A Division of Cardinal Scale Manufacturing Co.

Mailing & Shipping Scales
MS 15 / 30 / 100 / 1600

Operation Manual

INTRODUCTION

We wish to thank you for your purchase of our Mailing and Shipping Scale. This instrument has been designed and manufactured within the U.S.A. with quality and reliability.

This manual will help acquaint you with the features of this instrument, its proper installation, adjustment, operation and care. **Please read this manual before attempting to operate the system and keep it handy for future reference.**

FCC COMPLIANCE STATEMENT

WARNING! This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures necessary to correct the interference.

TABLE OF CONTENTS

PRECAUTIONS
Before using this instrument, read this manual and pay special attention to all "WARNING" symbols:

⚠ **IMPORTANT**   ⚡ **ELECTRICAL WARNING**

SERIAL NUMBER_____
DATE OF PURCHASE_____
PURCHASED FROM_____
_____
_____
RETAIN THIS INFORMATION FOR FUTURE USE

SPECIFICATIONS

USPS Services Supported	UPS Services Supported
1st Class/Priority	Ground
3rd Class/Parcel Post	2nd Day
Express Mail PO-PO	3 Day
Express Mail PO-Addressee	Next Day Air
1st Class Presort/ZIP+4	Next Day Letter
International Air	International
International Surface	Delivery Confirmation
International Express	Response
Library	Oversize
Book	Declared Value
Bound Printed Matter	COD
Certified	Dimensional Weight
Registered	**Other Features** ZIP to Zone Conversion
Return Receipt	Manual Weight Entry
Insurance	Piece Count for Bulk Mail
Special Delivery	Full Numeric Keypad
COD	User Replaceable Rate
	Cartridge

Designed and Manufactured in the USA

Operating Temperature Range ....32°F to 104°F

Power Requirements ....110/115 VAC 50/60 Hz
Capacity and
Graduation Size.......MS-15 ....15 lb x 0.05 oz
MS-30 ....0 - 30 lb x 0.1 oz
MS-100 ....0 - 99 lb 15.8 oz x 0.2 oz
MS-1600 ....0 - 99 lb 15.9 oz x .1 oz
Platform Size (Inches) ....15.5" W x 8.75" D
Height ....4 inches
Display Size and Type ....20 character 14-segment
11mm Vacuum Fluorescent
and supplemental LED's

INSTALLATION

The instructions contained in this section should be read and understood prior to attempting to complete the installation.

Place the system in a stable, vibration-free location away from direct sunlight and away from any rapid moving air source. Make certain the power cords are stored out of the way of normal traffic.

⚠ **CAUTION!!! - Do not place the scale on any unstable cart, stand, or table. The scale may fall, causing injury to the operator, and seriously damage the unit; or proper operation of the scale may be inhibited.**

SHIPPING CLIPS and SCREW
The load cells are protected from damage in shipping by four (4) shipping clips under the four (4) overload springs and one shipping screw located on the bottom of the scale (see figure 1). Remove the clips, screw, and the warning label before using the scale and re-install them before transporting or shipping the scale. *Note: Hand tighten the shipping screw.*

⚠ **CAUTION!!! Transporting or shipping the scale without the shipping clips and screw installed will void the load cell warranty.**

LEVEL SCALE
Level the scale if necessary by adjusting the four legs on scale bottom, up or down, until the bubble in the level gage located on the scale housing centered as shown in figure 1. After level is achieved, lock legs in place by tightening lock nuts against the scale bottom.
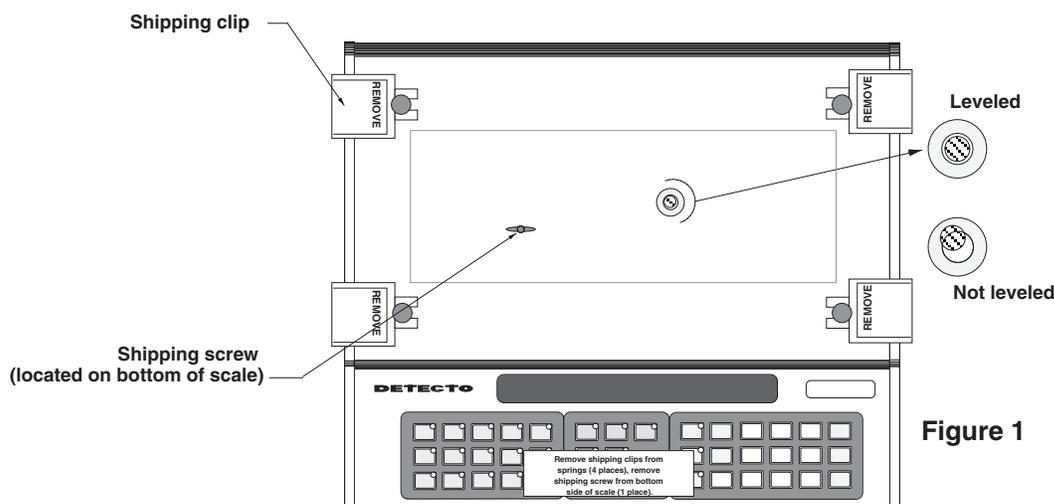

Figure 1

Place stainless steel platform on weighbridge by aligning holes in weighbridge with pins located on bottom of platform.
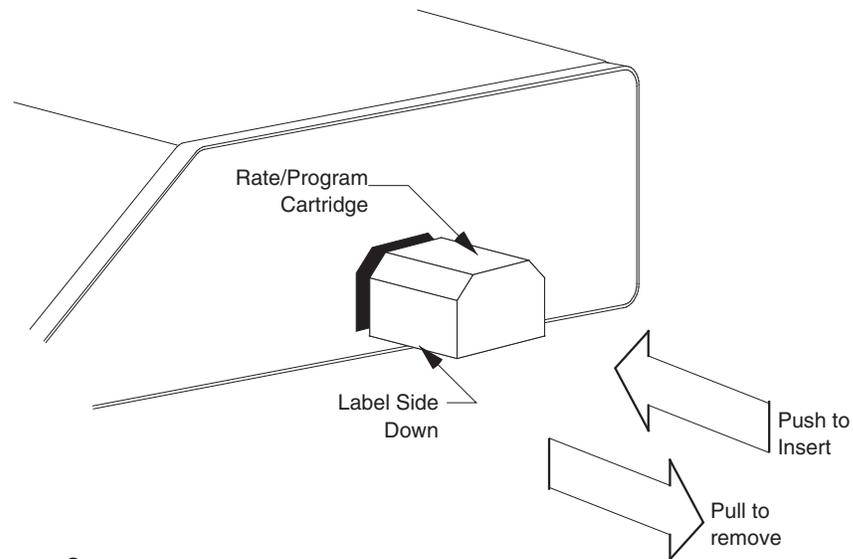

Rate/Program Cartridge

Label Side Down

Push to Insert

Pull to remove

Figure 2
Rate/Program Cartridge Installation

The Rate/Program Cartridge may have been shipped separate. If so, it must be installed in the instrument before beginning operation. This module is inserted into the cutout on the right side of the instrument as shown in Figure 2. Note that the label on the Rate/Program Module is on the bottom side and that the connector end of the Module is inserted into the opening in the instrument enclosure.

Insert the power cord plug into a grounded wall outlet. This completes the installation procedure.

POWER SUPPLY NOTE!
If an extension cord must be used, it should be a 3-wire fully grounded type. On Models requiring 220 VAC power, it is the responsibility of the customer to have the proper power cord plug installed which conforms to national electrical codes and local codes and ordinances.

> **To avoid electrical hazard DO NOT under any circumstances, cut, remove or bypass the power cord grounding prong.**

SYSTEM SETUP

Before operation may begin it will be necessary to enter operational parameters into your MS15/MS30/MS100/MS1600. Once this data is entered, it will be retained in memory and used whenever necessary. If it is necessary to change this data at a later point in time, repeat this procedure.

Turn the MS15/MS30/MS100/MS160 on while pressing the ENTER key. The system will display:
DETECTO MS15/MS30/MS100/MS1600 VX.X

and then change to
INSTALLED AT XXX

then change to
DEFAULT? (1/0) X

3

Where X is the current state of the default option (1=Yes, 0=No). The display asks whether you wish the system to automatically select the "USPS 1st Priority" mode of shipment on completion of any USPS transaction or the "UPS Ground" mode of shipment on completion of any UPS transaction. The default of service occurs when weight returns to zero.

The next display is:

COUNT OPTION?(1/0) X

The COUNT feature must be disabled in "Legal For Trade" applications. Press "1" to enable the COUNT key to operate, "0" to disable COUNT.

The next display is:

USPS HANDLING CHG

Pressing "0" to disable or "1" to enable the USPS handling charge. If enabled, the system will prompt for the method of charge:

PERCENT? (1/0)

Pressing "1" will establish a handling charge based on a percentage of the service charge, and the system will prompt for the percentage amount:

PERCENT =

Pressing "0" will establish a fixed amount to add to the service charge, and the system will prompt for the fixed amount:

AMOUNT =

The next display is:

UPS HANDLING CHG

Pressing "0" to disable or "1" to enable the UPS handling charge. If enabled, the system will prompt for the method of charge:

PERCENT? (1/0)

Pressing "1" will establish a UPS handling charge based on a percentage of the service charge, and the system will prompt for the percentage amount:

PERCENT =

Pressing "0" will establish a fixed amount to add to the service charge, and the system will prompt for the fixed amount:

AMOUNT =

The next display is:

CLEAR ZIP?

Pressing "1" for yes will cause the ZIP code/zone to clear whenever the weight on the scale is zero. Press "0" for no to retain the last ZIP code entered.

When complete, the last display will be:

DONE

This completes system setup of the scale. Remove and reapply power to the unit. The scale is now completely ready for operation.

RATE UPDATES

When UPS or Postal Rates change and new software are provided, it will arrive in the Rate/Program cartridge. Remove old cartridge and replace as shown in figure 2.

Special UPS International rates have been added for Broward and Dade counties in Florida. Units operating in these counties must be specified during rate updates.

KEYPAD DESCRIPTION

The keypad is comprised of three sections each containing keys of similar function. These three sections are UPS Section, the USPS Section and the Function Section. Each time a key is pressed the scale will emit a short beep to signal receipt of the keystroke. As with any keypad, certain precautions in its use must be taken. Do not use sharp or pointed objects to press the keys. Use only your finger tip to press the desired key. The keypad should be cleaned only with a damp (not wet) cloth. Do not use abrasive cleaners, strong detergents or solvents to clean the keypad. Make certain to remove the power cord from the scale before cleaning the keypad.
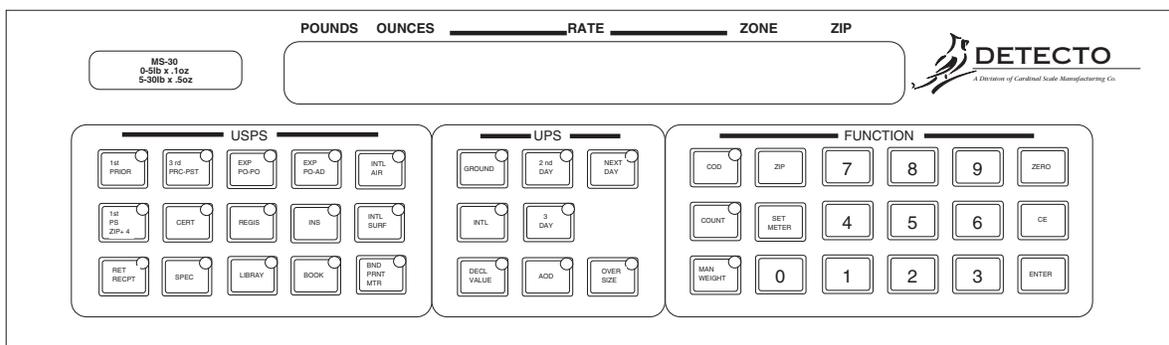
Keypad Layout

UPS KEYPAD OPERATION

The UPS keypad section consists of eight keys located in the middle of the keyboard. These keys are used to select various modes of UPS service as well as some special services. Each of the keys will be described in detail throughout this section.

NOTE:
If an acceptable ZIP has not been entered into the system when a UPS mode is selected, the system will first display:

ZIP =

Enter the first 3 digits of the destination ZIP code.

```
┌─────────────────────────────┐
│        ─── UPS ───          │
│  ┌──────┐ ┌──────┐ ┌──────┐ │
│  │      ○│ │  2 nd ○│ │ NEXT ○│ │
│  │GROUND │ │  DAY  │ │ DAY  │ │
│  └──────┘ └──────┘ └──────┘ │
│  ┌──────┐ ┌──────┐          │
│  │      ○│ │   3  ○│          │
│  │ INTL  │ │  DAY  │          │
│  └──────┘ └──────┘          │
│  ┌──────┐ ┌──────┐ ┌──────┐ │
│  │ DECL ○│ │     ○│ │ OVER ○│ │
│  │VALUE  │ │ AOD  │ │ SIZE │ │
│  └──────┘ └──────┘ └──────┘ │
└─────────────────────────────┘
```
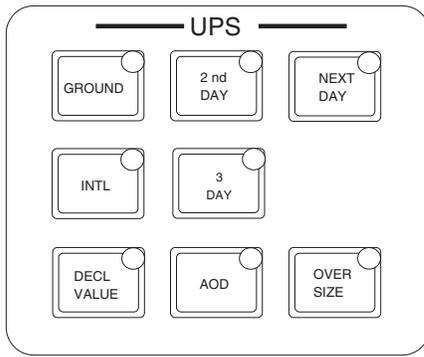
UPS Keypad Layout

GROUND - Pressing this key selects UPS Ground Service. Selection is indicated by LED in the key. UPS now supports Comercial and Residential ground rate structures. The status for each displayed to the right of the zone number in the display. A small 'r' for residential and a small 'c' for commercial. Press the UPS Ground key until the desired rate is selected.

If UPS GroundTrac was enabled during scale setup, press the GROUND key until a 'T' appears on the display between the rate and zone, and a small 'c' is displayed between the zone and ZIP code for UPS GroundTrac rate. Press the GROUND key again to change to UPS GroundTrac Residential, a small 'r' will be displayed. Press the GROUND key again to return to standard UPS Ground.

2ND DAY - Pressing this key selects UPS Second Day Air Service and displays 1=Letter, 2=Package?. Press "1" to select the letter rate and press "2" to select package rate.

NEXT DAY - Pressing this key selects UPS Next Day Air Service and displays 1=Letter, 2=Packages?. Press "1" to select the letter rate and press "2" to select package rate.

If UPS 2nd Day or Next Day Air Dimensional Weight is to be used, place the parcel on the scale and press either the 2ND DAY or NEXT DAY key. Press the "2" key to select Package. The scale will display the actual weight and the shipping charges based on the actual weight.

Press the OVERSIZE key. The display will change to:
                    LENGTH=

Enter the length of the package in inches, rounding up to the nearest whole inch. Press ENTER. The next prompt is:
                    HEIGHT=

Enter the height of the package in whole inches. Press ENTER for the next display:
                    WIDTH=

Enter the width of the package in whole inches. Press ENTER. The dimensional weight will then be displayed.

If dimensional weight is to be used, the OVERSIZE key will be lit and the scale display will return to weight/rate mode. The shipping charges displayed will be the dimensional weight rate (note that the weight displayed at this time is still the actual weight of the package).

If actual weight is to be used, the OVERSIZE key will not be lit and the display will return to the actual weight rate.

If the package is too large as determined by the dimensional weight calculation, the display will flash OVER WEIGHT LIMIT and return to the actual weight rate. Note that this package is too large to ship via UPS.

3 DAY - Pressing this key selects UPS 3 Day Select Service (on older scales this key was used for Next Day Letter).

INTL - This key selects UPS International Service. After pressing the key the display will prompt for Canada, press "1" for yes or "0" for no. The display next prompts for the type of service, followed by a prompt for the UPS zone. Use the numeric keys to enter the zone.

NOTE: Consult UPS International Service Guide for zones.

UPS SPECIAL SERVICES

After pressing one of the mode keys previously described special services offered by UPS may then be selected. The following describes the special service keys:

DECL VALUE - This key selects Declared Value, UPS's Package Insurance. Pressing this key will cause the display to request the declared value dollar amount. The operator should then enter the declared value using the numeric keys followed by pressing the ENTER key. The system will calculate and momentarily display the declared value fee. The fee is then added to the current shipping charges and the total displayed on the display line. The Declared Value service may be turned off by pressing the key a second time. The LED key indicator is illuminated when declared value service is selected.

AOD - Pressing this key selects Delivery Confirmation Response special service. The SIGNATURE REQ'D? prompt is displayed and when "1" for YES or "0" for NO is selected, the next prompt, REPLAY ADDRESS? is displayed. When "1" for YES or "0" for NO is selected, the fee will be displayed for a moment, then added to the current shipping charges and the total rate displayed. To cancel the Delivery Conformation Response service, press the AOD key again.

OVERSIZE - This key selects the Oversize Package rate for UPS Ground and 3 Day Select and is used to calculate dimensional weight for UPS Next Day and Second Day Air Services. This key is also used for the non-standard surcharge on USPS First Class.

ADDITIONAL HANDING - Press the red SPEC key to add the UPS additional handling charge to the displayed shipping rate.

USPS KEYPAD OPERATION

This section describes the use of the keys contained in the US Postal Service (USPS) section of the keypad. Refer to above layout or to the actual keypad for the layout of these keys.

USPS Keypad Layout

1ST/PRIOR - This key selects the First Class or Priority Mail service. The system automatically changes from First Class to Priority Mail when the weight exceeds the limit for First Class. The LED key indicator is illuminated when 1st/PRIOR service is selected.
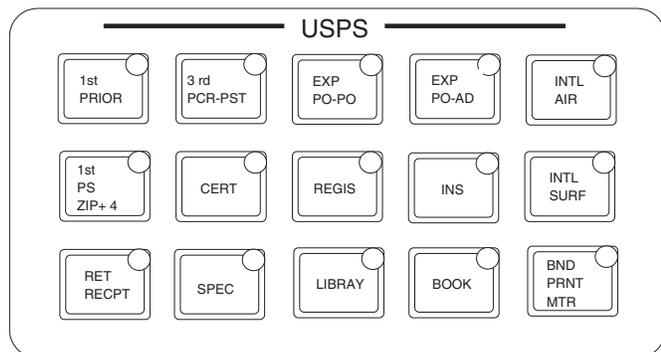
3RD/PCR PST - This key selects the Third Class or Parcel Post (Fourth Class) service. System selects the Third Class rate unless the weight of the item exceeds the Third Class limit. In this instance the Fourth Class or Parcel Post rate will be selected automatically. If the weight is within the range where either Third Class or Parcel Post could be used, the display will prompt:

                                        USE 4TH CLASS? (1/0)

Press "1" for the Fourth Class rate or press "0" for the Third Class rate. Note: When calculating Fourth Class rates, the scale automatically calculates the BMC discounted rate for qualifying ZIP codes. To calculate the non-discounted rate enter the destination zone number. For "Local" use zone 0. The LED key indicator is illuminated when 3rd/PCR PST service is selected.

EXP PO-PO - This key selects Express Mail Post Office to Post Office service. The LED key indicator is illuminated when EXP PO-PO service is selected.

EXP PO-AD - This key selects Express Mail Post Office to Addressee service. The LED key indicator is illuminated when EXP PO-AD service is selected.

INTL AIR - This key selects the international air rates listed by the USPS. Pressing this key causes the display line to show: EXPRESS (1/0). Press "1" for International Express Service. The display will show: 1=ON DEMAND, 2=CUSTOM. Press "1" to select Express On Demand Service or press "2" for Express Custom Service. The display will then prompt for Country Code. If "0" was pressed at the EXPRESS 1/0 prompt, the display will change to: 1=LTR, 2=PRCL, 3=PTDMTR or 4=SM PACKET? Press "1" to select LETTER mode, "2" for PARCEL POST mode, "3" for PRINTED MATTER mode or "4" for SMALL PACKET mode.

If LETTER, PARCEL POST or SMALL PACKET is selected, the display prompts "COUNTRY CODE=" (see the Country Code section of this manual for a list of these country code numbers). Enter the country code number, causing the system to momentarily display the country's name.

The rate is then calculated and displayed for the destination country, based on the weight of the item being mailed. The country code for the selected country will be shown continuously in the ZIP section of the display line.

If a "3" is selected for PRINTED MATTER, the display line will show: 1=REG, 2=BK, 3=PER?

Press "1" to select REGULAR PRINTED MATTER mode, "2" for BOOKS and SHEET MUSIC mode, "3" for PUBLISHER'S PERIODCALS mode. The display line will then show "COUNTRY CODE=." Proceed as described under the section for letter or parcel post modes.

1ST-PS/ZIP+4 - This key selects either the Presort, ZIP+4 or both discounts for First Class mail meeting the requirements defined by the USPS. Pressing this key causes the display to show: 1=PRESORT, 2=ZIP+4. If "1" is pressed, the display changes to: 1=PST, 2=ZIP+4, 3=3 DIGIT. The operator selects the Presort discount by pressing the appropriate key. When PST, ZIP+4 or 3 DIGIT discounts are added to the USPS Priority mail function, the price will be displayed in 1/10 of a penny (99.999). All other functions will display in the traditional currency format.

When using presorted USPS 1st Class Mail it is the responsibility of the operator to insure the mailing meets applicable Postal Service regulations of presorted mail. All ZIP+4 mailings must be 2.5 oz or less, if more the following error message will be displayed: OVER WEIGHT LIMIT.

CERT - This key selects the USPS Certified Mail. The charge for this service will be displayed momentarily, and then added to the displayed rate and the total shown. This service may be turned off and its fee removed from the total charge by pressing the key again. The LED key indicator is illuminated when CERT service is selected.

REGIS - This key selects USPS Registered Mail. Pressing this key after selecting a compatible class of service will cause the system to ask for the dollar indemnity amount for the item to be registered by displaying "AMOUNT =" in the display line. The operator enters the required amount using the numeric keys and pressing ENTER. The system will then prompt:

<div align="center">INSURANCE? Y</div>

Press "1" (or ENTER) for YES or "0" for NO.

The fee for registration will appear momentarily, then be added to the displayed rate and the total shown in the display line. This service may be cancelled and the fee removed from the total charge by pressing this key again. The LED key indicator is illuminated when REGIS service is selected. If insurance was selected, the system will illuminate the insurance key.

NOTE: If Insurance is already active (not associated with Registered) prior to selecting the Registered service, the REGISTERED key will not be accepted. If Registered is active, the INSURANCE key will not be accepted.

INS - This key selects insurance for the item to be mailed. Pressing this key causes the display line to indicate "AMOUNT =". The operator enters the insurance amount and presses ENTER. The fee for the insurance is displayed momentarily and added to the displayed rate. The LED key indicator is illuminated when INS service is selected.

INTL SURF - This key selects the International surface rates listed by the USPS. Pressing this key causes the display line to show: 1=PRCL, 2=PTDMTR, 3=SM PACKET?

Press "1" to select PARCEL POST mode, "2" for PRINTED MATTER mode or "3" for SMALL PACKET mode.

If PARCEL POST or SMALL PACKET is selected, the display line will show "COUNTRY CODE=" which asks for the country code number assigned to the destination country (see the Country Code section of this manual for a list of these country code numbers). The operator enters the country code number, causing the system to momentarily display the country's name. The rate is then calculated and displayed for the destination country based on the weight of the item being mailed. The country code for the selected country will be shown continuously in the ZIP Section of the display line.

If a "2" is selected for PRINTED MATTER, the display line will show: 1=REG, 2=BK, 3=PER?

Press "1" to select REGULAR PRINTED MATTER mode, "2" for BOOKS and SHEET MUSIC mode, "3" for PUBLISHER'S PERIODICALS mode. The display line will then show "COUNTRY CODE=" Proceed as described under the section for parcel post or small packet modes.

RET RECPT - This key selects USPS Return Receipt for certified or registered items. For domestic modes, pressing this key will cause the display to ask for the specific type of receipt requested by showing "WHERE (1) OR WHEN (2)?." The operator should enter either a "1" to select where or enter a "2" to select when. For international modes, "RETURN RECEIPT WHEN" is automatically selected. After selection has been made, the applicable fee will be displayed momentarily and added to the displayed rate. Note that pressing the RET RCPT key a second time will clear the return receipt request and remove its associated fee from the charge shown. The LED key indicator is illuminated when RET RECPT service is selected.

SPEC - This key selects USPS Special Delivery. The fee for special delivery will be shown momentarily, then added to the current postage and the total charge displayed. The LED key indicator is illuminated when SPEC service is selected. Also used for UPS Additional Handling Charge.

LIBRAY - This key selects the Library class rates for mail meeting the requirements set by the USPS. The LED key indicator is illuminated when LIBRAY service is selected.

BOOK - This key selects Book class rates for mail meeting the requirements set by the USPS. The LED key indicator is illuminated when BOOK service is selected.

BND PRNT MTR - This key selects Bound Printed Matter rates for those articles meeting USPS requirements. The LED key indicator is illuminated when BND PRNT MRT service is selected.

FUNCTION KEYS
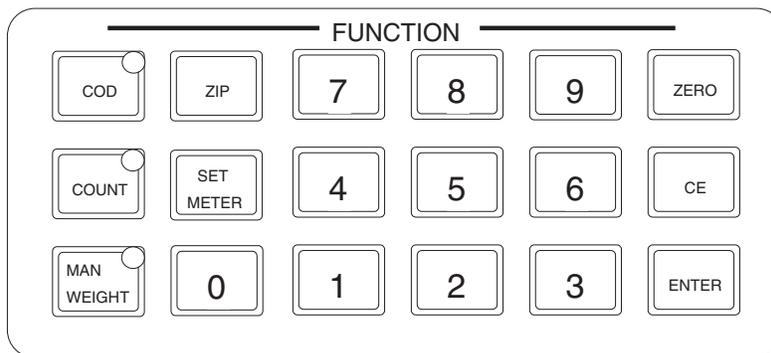
The following keys are contained in the Function Keypad section of the keyboard. Refer to the layout below or to the actual keypad.

Function Keypad Layout

COD - Pressing this key selects the COD special service for both UPS and USPS. After pressing this key the display line prompts for the COD amount. Enter the COD amount using the numeric keys followed by pressing ENTER. The display will indicate the COD fee then add it to the current shipping charges and show the total. To cancel the COD service press the COD key a second time. The LED key indicator is illuminated when COD service is selected.

ZIP - This key is used to enter the country code number, ZIP code or zone or other identification depending on the selected mode of service.

COUNT - This key (if enabled - see System Set Up) selects the count feature which allows the system to count and display the total number of identical items placed on the scale platform. Press this key and the display prompts "ADD PIECES =." Place a sample number of the pieces to be counted onto the scale platform and enter this number via the keypad. Press ENTER, the display will show "COUNT" with the number of pieces shown in the RATE section of the display line. Items may be removed or added to the scale platform and the system will indicate the number of items in the group. The LED key indicator is illuminated when the count mode is selected.

SET METER - This key is not used.

MAN WEIGHT - Press this key to manually enter the known weight of a package. The display will first prompt for pounds; enter the number of pounds and press ENTER. The display then prompts for ounces. The rate for the selected class of service is then calculated based on the manual weight entry. The manual weight will be retained until cleared by pressing the MANUAL WEIGHT key again.

0 through 9 - These ten keys are used to enter numeric data as required by the system.

ZERO - This key is used to zero the weight display.

CE - This key is used to clear the data entered for corrections during editing of data. Note that it is only effective if pressed prior to pressing the ENTER key.

ENTER - This key is used to complete a data entry and "lock" the rates shown on the display. Rates will remain "locked" for approximately 5 seconds. This function can be used when a package size limits visibility of the display. After pressing the ENTER key, the package can be moved to view the displayed rate.

CALIBRATION

The following describes the Calibration of the MS15/MS30/MS100/MS1600 Scale in the event that the scale should need recalibration. A qualified technician should perform this function to maintain the instrument's high degree of accuracy.

Before beginning calibration, the following equipment is required:

    15 pounds of test weights (MS15 Only) or
    30 pounds of test weights (MS30 Only) or
    50 pounds of test weights (MS100/MS1600 Only)
    Small flat blade screwdriver
    Phillips screwdriver

With the scale power OFF, remove the four (4) screws securing the right side panel (as viewed from the scale front) and remove the panel. Referring to the figure 3, locate the Calibration/Setup switch.The switch is protected by a small plastic cover to prevent unauthorized access to this data. Remove the plastic cover by loosening the two screws on the bottom of the scale. With the switch exposed, push the switch to the opposite setting. Turn the MS15/MS30/MS100/MS1600 on. When power is turned on the system will display:

Right side of Scale

Calibration/Setup

Operation

Calibration/Setup Switch
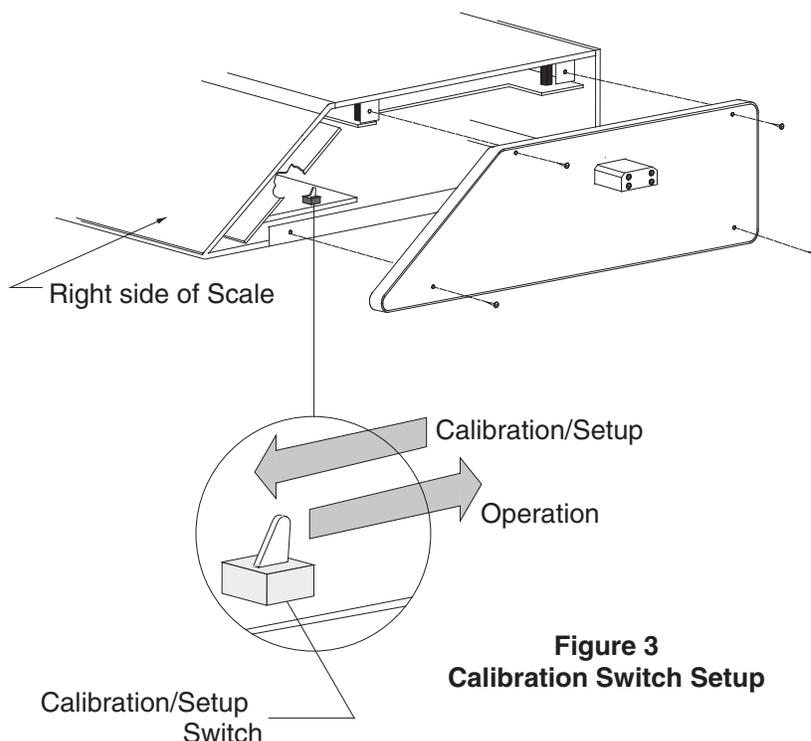
Figure 3
Calibration Switch Setup

DETECTO MS15/MS30/MS100/MS1600 VX.X

and then change to

INSTALLED AT XXX

and then change to

LOAD SCALE TO 15 lb (MS15 Only)
LOAD SCALE TO 30 lb (MS30 Only)
LOAD SCALE TO 50 lb (MS100/MS1600 Only)

Place the weight on the scale, wait about 5 seconds for the scale to stabilize, then press the ENTER key to start calibration. The display will start to fill with dashes from the left to the right. When finished, the unit will display:

UNLOAD SCALE

Remove the weight from the scale, wait about 5 seconds for the scale to stabilize, then press the ENTER key to finish calibration. The display will start to fill with dashes from the left to the right. When finished, system operation continues as described in System Set Up.

Complete the system set up or press the ENTER key until the unit displays:
DONE

This completes calibration of the scale. Return the Calibration/Setup switch to its original position. Remove power from the scale base and re-install the plastic cover. Replace the side panel and apply power to the unit. The scale is now calibrated and ready for operation.

CARE AND MAINTENANCE

1. DO NOT subject the scale platform to sudden shocks.
2. DO NOT press keys too hard, only a light touch is necessary. Activate keys with your finger, NEVER use a sharp object.
3. DO NOT submerge the scale in water or spray water directly on it and DO NOT use abrasives to clean the instrument. Clean the cover with a damp soft cloth and mild detergent. The platform may be removed from scale and submerged in water with a mild detergent, always dry it completely afterwards.
4. DO NOT use acetone or other volatile solvents for cleaning.
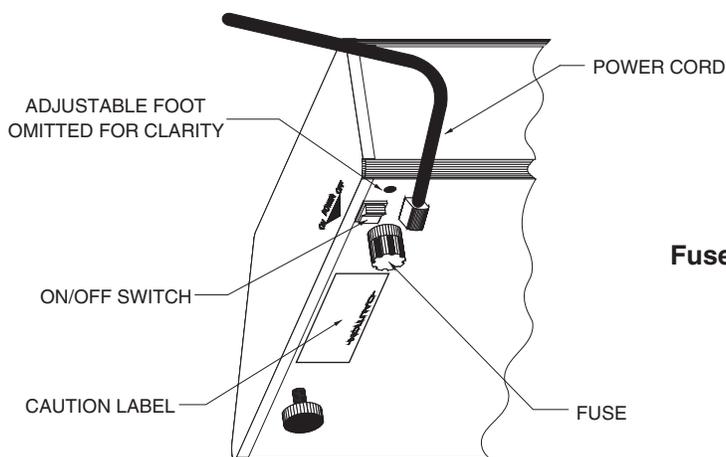
FUSE REPLACEMENT
If the need to check or replace a fuse arises please follow Steps 1 through 4 carefully.

1. Turn scale power switch to the OFF position and unplug power cord from wall outlet.

> ⚡ **ALWAYS remove power source from scale before removing or replacing fuse to prevent risk of electrical shock.**

2. Press inward on the fuse holder cap, turn counterclockwise and release. The cap along with the fuse should then be ejected on the fuse holder. See figure 4.

3. Pull out the old fuse. Place new fuse in holder: 3AG 1/4 ASB type for 110 VAC; 3AG 1/8 ASB type for 220 VAC. Snap the fuse holder back into position.

4. The power may now be turned on.

   To prevent risk of fire, be certain to use type and rating recommended for your Model scale.

POWER CORD

ADJUSTABLE FOOT
OMITTED FOR CLARITY

**Figure 4
Fuse Replacement**

ON/OFF SWITCH

CAUTION LABEL

FUSE

TROUBLESHOOTING GUIDE

The following guide is intended to help isolate and correct minor problems. If, after consulting this guide, you are unable to correct the problem, contact your Detecto dealer for assistance.

SYMPTOM	PROBABLE CAUSE	PROBABLE SOLUTION
System Dead	No AC power Fuse blown No program module Improperly seated program module	Check power cord Replace fuse Insert program module Re-seat program module
Incorrect Scale Weight	Incorrect software Improperly calibrated Scale base not level	Make sure software is for same model scale Calibrate Scale Make sure scale base is level
Unstable weight	Noisy power source Power not grounded Vibration and/or excessive air flow	Install line filter or conditioner Ground the power outlet Relocate scale
Incorrect rates	Improper service Improper installation	Select the proper service Contact Detecto dealer

Country Code Numbers

101	Afghanistan	140	Corsica
102	Albania	141	Costa Rica
103	Algeria	190	Cote d'Ivoire (Ivory Coast)
104	Andorra	312	Croatia
105	Angola	142	Cuba
296	Anguilla	143	Cyprus
106	Antiqua / Barbuda	144	Czechoslovakia
107	Argentina	145	Denmark
300	Armenia	146	Djibouti
165	Aruba	147	Dominica
108	Ascension	148	Dominican Republic
109	Australia	149	East Timor
110	Austria	150	Ecuador
301	Azerbaijan	151	Egypt
111	Azores	152	El Salvador
112	Bahamas	153	Equatorial Guinea
113	Bahrain	154	Estonia
114	Bangladesh	155	Ethiopia
115	Barbados	156	Faroe Islands
116	Belgium	157	Falkland Islands
117	Belize	158	Fiji
118	Benin	159	Finland
119	Bermuda	160	France
120	Bhutan	161	French Guiana
121	Bolivia	162	French Polynesia
122	Botswana	163	Gabon
123	Brazil	164	Gambia
301	Azerbaijan	303	Georgia, Republic of
111	Azores	166	Germany, Federal Republic of
112	Bahamas	167	Ghana
113	Bahrain	168	Gibraltar
114	Bangladesh	169	Great Britain & Northern Ireland
115	Barbados	170	Greece
116	Belgium	171	Greenland
117	Belize	172	Grenada
118	Benin	173	Guadeloupe
119	Bermuda	174	Guatemala
120	Bhutan	175	Guinea
121	Bolivia	176	Guinea Bissau
122	Botswana	177	Guyana
123	Brazil	178	Haiti
297	British Virgin Islands	179	Honduras
124	Brunei	180	Hong Kong
125	Bulgaria	181	Hungary
126	Burkina	182	Iceland
127	Burma	183	India
128	Burnundi	184	Indonesia
302	Byelarus	185	Iran
129	Cameroon	186	Iraq
130	Canada	187	Ireland
131	Cape Verde	188	Israel
132	Cayman Island	189	Italy
133	Central African Republic	191	Jamaica
134	Chad	192	Japan
135	Chile	193	Jordan
136	China	194	Kampuchea (Cambodia formerly)
137	Colombia	304	Kazakhstan
138	Comoros	195	Kenya
139	Congo	196	Kiribati

197	Korea, (Democratic Peoples Republic)	251	St. Pierre & Miquelon
198	Korea, Republic of (South Korea)	252	St. Vincent & Grenadines
199	Kuwait	291	San Marino, Republic of
305	Kyrgyzstan	253	Sao Tome & Principe
200	Lao	254	Saudi Arabia
201	Latvia	255	Senegal
202	Lebanon	315	Serbia
204	Lesotho	256	Seychelles
205	Liberia	257	Sierra Leone
206	Libya	258	Singapore
203	Liechtenstein	316	Slovenia
207	Lithuania	259	Solomon Islands
208	Luxembourg	260	Somalia
209	Macao	261	South Africa
313	Macedonia (Rep. of)	262	Spain
210	Madagascar	263	Sri Lanka
211	Madeira Islands	264	Sudan
212	Malawi	265	Surinam
213	Malaysia	266	Swaziland
214	Maldives	267	Sweden
215	Mali	268	Switzerland
216	Malta	269	Syria
217	Martinique	270	Taiwan
218	Mauritania	308	Tajikistan
219	Mauritius	271	Tanzania
220	Mexico	272	Thailand
306	Moldova	273	Togo
221	Mongolia	274	Tonga
314	Montenegro	275	Trinidad & Tobago
298	Montserrat	276	Tristan da Cunha
222	Morocco	277	Tunisia
223	Mozambique	278	Turkey
307	Namibia	309	Turkmenistan
224	Nauru	279	Turks & Caicos Islands
225	Nepal	280	Tuvalu
226	Netherlands	281	Uganda
227	Netherlands Antilles	310	Ukraine
228	New Caledonia	283	United Arab Emirates
229	New Zealand	284	Uruguay
230	Nicaragua	311	Uzbekistan
231	Niger	285	Vanuatu
232	Nigeria	286	Vatican City
233	Norway	287	Venezuela
234	Oman	288	Vietnam
235	Pakistan	299	Wallis & Futuna Islands
236	Panama	289	Western Samoa
237	Papua New Guinea	290	Yemen, Republic of
238	Paraguay	292	Bosnia-Hercegovina
239	Peru	293	Zaire
240	Philippines	294	Zambia
241	Pitcairn Island	295	Zimbabwe
242	Poland		
243	Portugal		
244	Qatar		
245	Reunion Island		
246	Romania		
282	Russia		
247	Rwanda		
248	St. Christopher & Nevis		
249	St. Helena		
250	St. Lucia		

Addendum to Detecto Mailing Scales, MS-4, MS-8, MS-15, MS-30, MS-100 and MS-1600

COUNTRY CODE NUMBERS

This addendum lists the Country Code numbers used by the Detecto Mailing Scales listed above to work in accordance with the new International mail services implemented by the U.S. Postal Service effective May 14, 2007. Consult your scale operation manual for additional operation information. For additional information about the new International mail services and mail-piece eligibility consult your local post office or the International Mail Manual.

A
101 - Afghanistan
102 - Albania
103 - Algeria
104 - Andorra
105 - Angola
296 - Anguilla
106 - Antiqua & Barbuda
107 - Argentina
300 - Armenia
165 - Aruba
108 - Ascension
109 - Australia
110 - Austria
301 - Azerbaijan

B
112 - Bahamas
113 - Bahrain
114 - Bangladesh
115 - Barbados
302 - Belarus
116 - Belgium
117 - Belize
118 - Benin
119 - Bermuda
120 - Bhutan
121 - Bolivia
292 - Bosnia-Herzegovina
122 - Botswana
123 - Brazil
297 - British Virgin Islands
124 - Brunei Darussalam
125 - Bulgaria
126 - Burkina Faso
127 - Burma (Myanmar)
128 - Burundi

C
194 - Cambodia
129 - Cameroon
130 - Canada
131 - Cape Verde
132 - Cayman Islands
133 - Central African Republic
134 - Chad
135 - Chile
136 - China
137 - Colombia
138 - Comoros
139 - Congo, Democratic Republic of the
293 - Congo, Republic of the
141 - Costa Rica
190 - Cote d'Ivoire (Ivory Coast)
312 - Croatia
142 - Cuba
143 - Cyprus
144 - Czech Republic

D
145 - Denmark
146 - Djibouti
147 - Dominica
148 - Dominican Republic

E
150 - Ecuador
151 - Egypt
152 - El Salvador
153 - Equatorial Guinea
318 - Eritrea
154 - Estonia
155 - Ethiopia

F
157 - Falkland Islands
156 - Faroe Islands
158 - Fiji
159 - Finland
160 - France
161 - French Guiana
162 - French Polynesia

G
163 - Gabon
164 - Gambia
303 - Georgia, Republic of
166 - Germany
167 - Ghana
168 - Gibraltar
169 - Great Britain & Northern Ireland
170 - Greece
171 - Greenland
172 - Grenada
173 - Guadeloupe
174 - Guatemala
175 - Guinea
176 - Guinea-Bissau
177 - Guyana

H
178 - Haiti
179 - Honduras
180 - Hong Kong
181 - Hungary

I
182 - Iceland
183 - India
184 - Indonesia
185 - Iran
186 - Iraq
187 - Ireland (Eire)
188 - Israel
189 - Italy

J
191 - Jamaica
192 - Japan
193 - Jordan

K
304 - Kazakhstan
195 - Kenya
196 - Kiribati
197 - Korea, Democratic People's Republic
     of (North)
198 - Korea, Republic of (South)
199 - Kuwait
305 - Kyrgyzstan

L
200 - Laos
201 - Latvia
202 - Lebanon
204 - Lesotho
205 - Liberia
206 - Libya
203 - Liechtenstein
207 - Lithuania
208 - Luxembourg

M
209 - Macao
313 - Macedonia, Republic of
210 - Madagascar
212 - Malawi
213 - Malaysia
214 - Maldives
215 - Mali
216 - Malta
140 - Marshall Islands
217 - Martinique
218 - Mauritania
219 - Mauritius
220 - Mexico
111 - Micronesia
306 - Moldova
221 - Mongolia
298 - Montserrat
222 - Morocco
223 - Mozambique

N
307 - Namibia
224 - Nauru
225 - Nepal
226 - Netherlands
227 - Netherlands Antilles
228 - New Caledonia
229 - New Zealand
230 - Nicaragua
231 - Niger
232 - Nigeria
233 - Norway

O
234 - Oman

P
235 - Pakistan
236 - Panama
237 - Papua New Guinea
238 - Paraguay
239 - Peru
240 - Philippines
241 - Pitcairn Island
242 - Poland
243 – Portugal

Q
244 - Qatar

R
245 - Reunion
246 - Romania
282 - Russia
247 - Rwanda

S

248 - St. Christopher (St Kitts) & Nevis
249 - St. Helena
250 - St. Lucia
251 - St. Pierre & Miquelon
252 - St. Vincent & Grenadines
291 - San Marino
253 - Sao Tome & Principe
254 - Saudi Arabia
255 - Senegal
315 - Serbia-Montenegro (Yugoslavia)
256 - Seychelles
257 - Sierra Leone
258 - Singapore
317 - Slovak Republic (Slovakia)
316 - Slovenia
259 - Solomon Islands
260 - Somalia
261 - South Africa
262 - Spain
263 - Sri Lanka
264 - Sudan
265 - Suriname
266 - Swaziland
267 - Sweden
268 - Switzerland
269 - Syrian Arab Republic (Syria)

T

270 - Taiwan
308 - Tajikistan
271 - Tanzania
272 - Thailand
273 - Togo
274 - Tonga
275 - Trinidad & Tobago
276 - Tristan da Cunha
277 - Tunisia
278 - Turkey
309 - Turkmenistan
279 - Turks & Caicos Islands
280 – Tuvalu

U

281 - Uganda
310 - Ukraine
283 - United Arab Emirates
284 - Uruguay
311 - Uzbekistan

V

285 - Vanuatu
286 - Vatican City
287 - Venezuela
288 - Vietnam

W

299 - Wallis & Futuna Islands
289 - Western Samoa
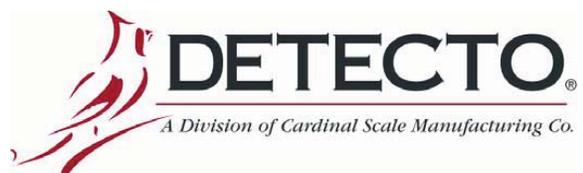
Y

290 - Yemen

Z

294 - Zambia
295 - Zimbabwe

DETECTO®
A Division of Cardinal Scale Manufacturing Co.

OPERATION CHANGES for Rev 17.5

This addendum explains changes in firmware Rev 17.5 to the operation of the MS-Series scale to work in accordance with the May 12, 2008 rate structure implemented by the U.S. Postal Service. For additional operation information, refer to the scales operation manual. Consult your local post office or www.usps.com for additional information about the rate structure, services and mail-piece eligibility.

DOMESTIC MAIL

Express Mail

With the exception of the flat-rate envelope (which is still priced based on weight alone), the Express Mail service is now a zone-based price service based on weight and distance.

This service uses the **EXP PO-AD** key and operates the same as the former Express Post Office to Addressee requiring the operator to enter a zip code to calculate the rate.

1. Place item on scale.
2. Press the **EXP PO-AD** key.
3. Using the numeric keys, enter a three-digit zip code.
4. The scale will then display the rate.

   NOTE! The Express Post Office to Post Office service has been discontinued on the MS-Series scale and the key for it (**EXP PO-PO**) has been disabled.

Bound Printed Matter Re-Instated

Beginning with version 17.5 of the firmware, the Bound Printed Matter Parcels (Nonpresorted) service and Bound Printed Matter Flats (Nonpresorted) service have been re-instated in the MS-Series scale and the key for it (**BND PRTD MTTR**) has been enabled.

OPERATION CHANGES for Rev 17.5, Cont.

INTERNATIONAL MAIL

Effective May 12, 2008, the First-Class International Mail service will use shaped-based pricing aligning it with the pricing structure used for domestic mail. The MS-Series scale supports the following new First-Class International Mail services:

> First Class Mail International
> > Postcards, Letters, Flats and Packages weighing <u>less than</u> 3.5 oz
> > Large Envelopes (Flats) weighing <u>over</u> 3.5 oz and under 64 oz
> > Packages (Small Packets) weighing <u>over</u> 3.5 oz and under 64 oz

Automatic Service Selection

1. Place item on scale and then press the **INTL AIR** key.
2. The scale prompts *EXPRESS? (1/0) _*.
3. Press the **0** key to select NO to Express mail.
4. The scale prompts *1= FIRST 2=PRIORITY*.
5. Press the **1** key to select First Class Mail International.
6. The scale prompts *COUNTRY CODE=_00*.
7. Using the numeric keypad, enter the three digit country code. Note that the country name will display briefly.
8. If item weighs less than 3.5 oz, scale will select the First-Class Mail International service and display the rate (*LT* will show for the ZONE and the country code for the ZIP).
9. If item weighs over 3.5 oz but under 64 oz, scale will select the Large Envelopes (Flat) International service and display the rate (*FT* will show for the ZONE and the country code for the ZIP).
10. If item is a package, press the **INTL AIR** key to select the Packages (Small Packets) International service rate (*PK* will show for the ZONE and the country code for the ZIP).

> **NOTE! If item weighs over 64 oz, scale will display *OVER WEIGHT LIMIT*.**

Operator Manually Selects Service for items weighing <u>less than</u> 3.5 oz
Postcards, Letters, Flats and Packages

1. Press the **INTL AIR** key.
2. The scale prompts *EXPRESS? (1/0) _*.
3. Press the **0** key to select NO to Express mail.
4. The scale prompts *1= FIRST 2=PRIORITY*.
5. Press the **1** key to select First Class Mail International.
6. The scale prompts *COUNTRY CODE=_00*.
7. Using the numeric keypad, enter the three digit country code. Note that the country name will display briefly.
8. Place item on scale.
9. The scale will display the First-Class Mail International rate (*LT* will show for the ZONE and the country code for the ZIP).

Large Envelopes (Flats)

1. Follow steps 1 through 9 above.
2. Press the **INTL AIR** key.
3. The scale will display the Large Envelopes (Flat) International service rate (*FT* will show for the ZONE and the country code for the ZIP).

Packages (Small Packets)

1. Follow steps 1 through 9 above.
2. Press the **INTL AIR** key two (2) times.
3. The scale will display the Packages (Small Packets) International service rate (*PK* will show for the ZONE and the country code for the ZIP).

DESIGNED & MANUFACTURED IN U.S.A.