



**Pennsylvania Scale Company**

**Model 64 Airline Baggage Scale**

**Calibration Manual**

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# MDL 6400 Airline Baggage Scale PROGRAMMING/CALIBRATION

## SECTION 2

### INTRODUCTION

The MDL 6400 Airline Baggage Scale can be calibrated using the standard or optional function buttons or through the RS-232 Interface. It employs a digital calibration technique that makes it very versatile when being matched to the requirements of the application at hand.

### MDL 6400 Airline Baggage Scale CALIBRATION

The following calibration data entry applies to the MDL 6400 Airline Baggage Scale. Before attempting to calibrate the scale, a thorough understanding of the method of data entry is required. Below is an explanation of the switches and their functions.

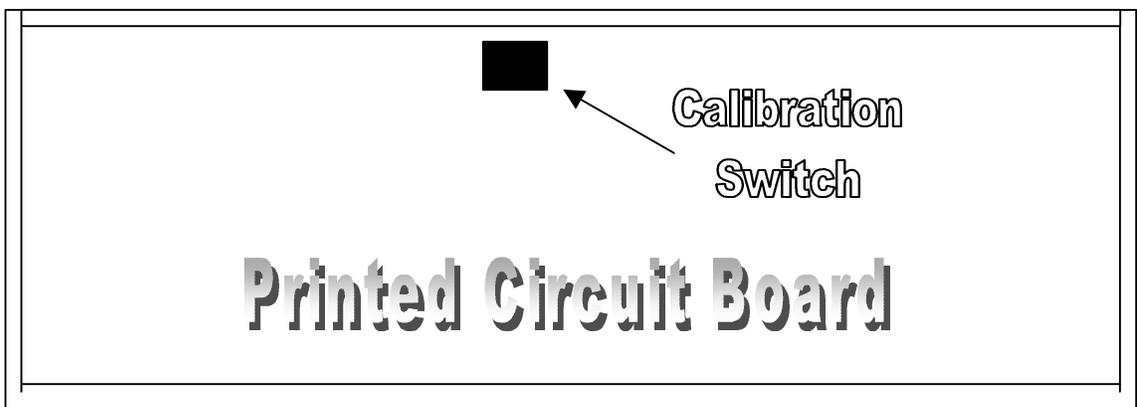
When the calibration mode is entered, the pushbutton switches will be redefined to allow data entry. The four switches will be redefined as shown by the parentheses.



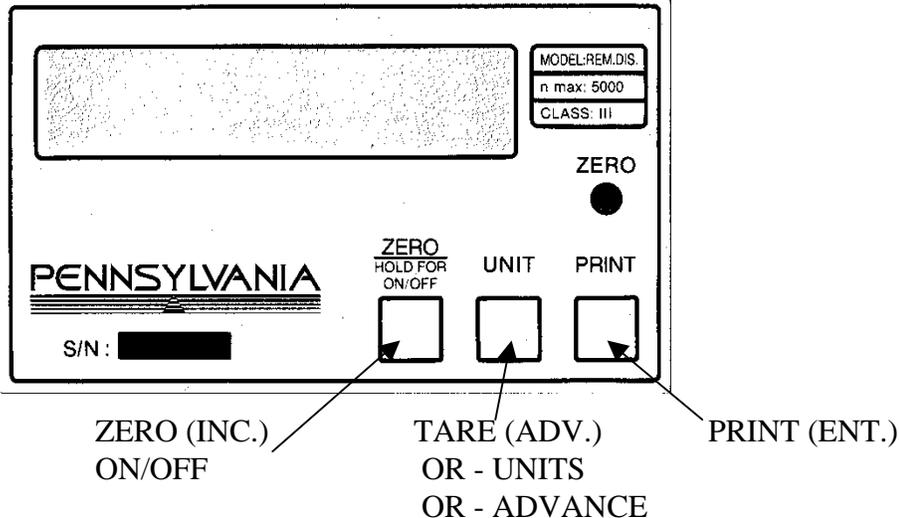
CAL (D.P. / CLR)

*[The CAL switch is located inside of the electronics enclosure, mounted in the sub-frame of the base, on the main PCB, on the top edge of the board and on the approximate center side to side.]*

### Front Of Enclosure



## Display



**Following is a description of the function of each switch.**

### **ZERO BUTTON - INC (Increment)**

This switch is used to key numbers onto the display. The value of the number increases by one each time the switch is pressed. Holding the switch closed will engage automatic incrementing.

**NOTE:** This switch will also act as a scroll push-button, used to make calibration selections where noted in the instructions. For all other calibration steps it acts as the increment push-button.

### **TARE/UNITS or ADVANCE Button - ADV (Advance)**

The advance switch multiplies any number keyed into the scale by 10, (the number is shifted one digit to the left each time the button is pressed). If this switch is pressed when the display shows "0", the digit will not shift. If it is pressed when the display is filled, the display will be cleared and the input procedure may be restarted.

## **CALIBRATION SWITCH - D.P. / CLR (Decimal Point / Clear)**

Pressing this push-button once causes the decimal point to appear. If an error is made at any time during data entry, pressing this push-button twice will clear the display. The correct data can then be entered.

## **PRINT BUTTON - ENT (Enter)**

When this push-button is pressed the data currently displayed is committed to system memory and the calibration automatically advances to the next Calibration step.

## **DATA ENTRY EXAMPLE**

The following example describes the switch-closure sequence needed to enter the number 320.0.

1. While the display is alternately flashing the calibration step number and the data stored, press the INC button to start the data input sequence. The display will stop flashing and show "0".
2. Press INC three more times or hold INC closed until a 3 appears. The display will show "3".
3. Press ADV; the display will show "30".
4. Press INC two times or hold INC closed until a 2 appears in the right-most position. The display will show "32".
5. Press ADV; the display will show "320".
6. Press D.P./CLR for the decimal point. The display will show "320.0".
7. Press ENT to commit this value to system memory. At this point the next Calibration step will appear.

## CALIBRATION PROCEDURE

The calibration of the MDL 6400 Airline Baggage Scale is divided into five major categories. The entry point to each of these categories are the calibration steps that are evenly divisible by ten.

<u>STEP</u>	<u>DESCRIPTION</u>
<b>Cal 20</b>	<b>Entry point</b>
(20)	= Manual CAL ( <i>Input operational features</i> )
(30)	= Secondary units calibration * <b>Available only on MDL 64 scales with the "UNITS" button</b>
(40)	= Load Cell ( <i>Calibrates the scale weights</i> ) This mode requires the use of approved weights to be completed.
(60)	= RS-232 CAL ( <i>Setup RS-232 Interface parameters</i> ) May also be accessed by pressing and holding the PRINT button for 5 seconds.
(70)	= Setting battery saver time. ( <i>Also time &amp; date if option is installed.</i> ) May be accessed by pressing and holding the PRINT button for 5 seconds
(80)	= Print CAL ( <i>Setup printer output format</i> ) May also be accessed by pressing and holding the PRINT button for 5 seconds.

At any of the above steps:

- Press ENTER to access that category.
- Key in the number of any other category (using the INC and ADV buttons) and press ENTER to move to that category.
- Key in a "0" and press ENTER to leave calibration.

When the last calibration step of each category is reached, the calibration automatically advances to the next category.

To begin calibration:

**CAUTION:** Since this must be done with the indicator turned on, care **MUST** be taken not to come in contact with the 110 volt power supply section on the far left side of the circuit board.

- Remove the two Phillips head screws on the right side of the electronics enclosure lid (Located in the sub-frame of the base) and open the lid enough to access the CAL switch.

Enter calibration by pressing the CAL switch. The display will prompt "CAL 20". At this point, you can either:

- 1) push "ENT" to select this category

**OR**

- 2) select another category as described above.

## **CALIBRATION STEPS**

**NOTE:** During the calibration procedure each calibration step will be printed to any device interfaced to the RS-232 port. (Refer to page 20 for a sample print out.)

**STEP**            **DESCRIPTION** (Press ENTER after each entry)

**CAL 20**            **Manual Calibration entry point**

**CAP 21**            Full Capacity - Input full capacity of scale

**rES 22**            Resolution -Input Scale Resolution. Standard entry is the capacity of the scale divided by 5000 and rounded to the nearest 1, 2, or 5.

**-0- 23**            Zero Range - Input the Zero Range. The amount of weight the scale is allowed to Zero off. (99.8% is the maximum value that may be zeroed off, even if full capacity is entered.)

**UnS 24**            Units - Select the weighing units number from the following table by pressing the INC button to scroll through the choices.

1 = lb	5 = lb t	9 = c	13 = tons
2 = kg	6 = gr	10 = oz f	14 = lb/oz
3 = g	7 = dwt	11 = ml	
4 = oz t	8 = oz	12 = l	

Prt 25 Print Stable\*/Unstable - Use the INC button to select whether the scale will print only when stable, or any time a print is requested (Unstable).

Cnd 26 Configure scale for Canadian Specifications. ("Yes" or "No")

0 - t 27 Zero tracking value entered as a percent of one display resolution.

**EXAMPLES:** Entering a .25 represents a zero tracking value of 25% of one display resolution and entering a 0 will disable the zero tracking feature.

**CAUTION:** It is not recommended that a value larger than 5.00 be entered in this step, as it may cause errors in the weight readings (\*.25).

**CAL 30 Entry point for secondary weighing unit. \* Available only on MDL 64 scales with the "UNITS" button**

2Un 31 Select secondary weighing unit from the following chart with the INC button:

1 = lb	5 = lb t	9 = c	13 = tons
2 = kg*	6 = g	10 = oz f	
3 = g	7 = dwt	11 = ml	
4 = oz t	8 = oz	12 = l	

2rE 32 Secondary weighing resolution. Key in the resolution for the secondary weighing unit.

**CAL 40 Load Cell Calibration entry point**

FIL 41 Response time - Enter a number from 0 to 9 to select the response time of the scale. Pressing the INC button will scroll through the numbers. Press ENTER when the desired number is reached. A "0" will give very fast response and less immunity to vibrations. A "9" is the slowest response, but very stable. ("3" is the standard entry.)

nol 42 No Load - With no weight on the scale, press ENTER.

HLF 43 Half Capacity - Apply half load and press ENTER. If a 1/2-capacity weight is unavailable, place a substitute weight on the platform, key in the amount of weight being used and press ENTER.

FUL 44 Full Capacity - Apply full load and press ENTER. If a full-capacity weight is unavailable, place a substitute weight on the platform, key in the amount of weight being used and press ENTER.

**WARNING!!!** When using a substitute weight for  $\frac{1}{2}$  and full capacity, you must use weights which meet the specifications in either 1 or 2 below, or the scale may not calibrate properly.

1. Two weights (one for  $\frac{1}{2}$  capacity, one for full capacity) that are greater than 25% of full capacity and differ by at least 50% of full capacity.  
**EXAMPLE:** The weights used for a 100-lb scale could be 30 lb and 80 lb.
2. One weight which is preferably greater than 50% of full capacity.

nol 45 No Load - Remove all weight from the platform and press ENTER.

**CFG 60** **RS-232 Configuration**  
(This step can also be reached from the front panel by pressing and holding the PRINT button for 2 seconds.) Press ENTER. (\* = default)

bAU 61 BAUD RATE: Select a baud rate from the table below using the SCROLL (INC) push-button to view the options; press ENTER when you reach the required baud rate.

300 baud*	4800 baud
600 baud	9600 baud
1200 baud	19200 baud
2400 baud	

LEn 62WORD LENGTH: Select the word length from the table below using the SCROLL (INC) push-button to view the options; press ENTER when you reach the required word length.

7 bits*
8 bits

SPb 63 STOP BITS: Select the stop bits from the table below using the SCROLL (INC) push-button to view the options; press ENTER when you reach the required stop bits.

1 stop bit\*

2 stop bits

PAr 64 PARITY: Select the parity from the table below using the SCROLL (INC) push-button to view the options; press ENTER when you reach the required parity.

None

Even parity

Odd parity\*

Ech 65 ECHO: Use the SCROLL (INC) button to select whether the scale is to echo input data back to the sending device.

no Ech (No echo)\*

Ech (Echo)

Cdr 66 COMM (Network) ADDRESS: If the scale is used in a networking situation it may be assigned an address number. When the scale is assigned an address number it will ignore any commands not preceded by that number. Key in a number from 0 to 255. (0 is the normal entry and disables this feature).

Pd 67 Select whether the power on diagnostics will be sent from the RS-232 port. ("Yes" or \* "No")

**CAL 70** **Setting of time and date.**  
**(Steps 71 through 73 will only come up if the Time and Date option is installed.)**

StF 71 Select type of clock.  
0 = 24 hour clock  
1 = 12 hour clock, currently AM  
2 = 12 hour clock, currently PM

td1 72 Enter the current time as HHMMSS. Based on the type of clock selected in step 71. Clock will begin with the pressing of the ENTER button.

td2 73 Enter the current date as MMDDYY.

*Setting battery saver time:*

SLP 74 For AC/DC versions of the scale, enter the amount of time the display is to remain on before going into the battery saver sleep mode. The time is entered in number of minutes, from .5 to 25. Entering a zero will disable the sleep mode for AC only scales. (AC/DC versions of the MDL 6400 Airline Baggage Scale are not available at this time.)

**CAL 80 Formatted print slot programming. Press ENT to access the first print slot.**

Before continuing, an explanation of formatted printing is necessary.

## **BUILDING A FORMATTED PRINT**

The user defined formatted print is the string of information sent from the RS-232 port when the PRINT button is pressed, or the scale receives an SRP command from a computer or terminal. The user selects the format of this string by entering two digit print codes into the 21 available print slots, PSL 81 through PSL 102. The print codes, which represent various types of scale information and RS-232 page and line positioning commands, are divided into several categories, i.e., prefix and suffix labels, scale data only, scale data with prefix and suffix labels, page and line formatting characters, and repeat codes.

To build a formatted print, refer to "Formatted Print Codes" following this section. Select the desired code for the current slot and key it in using the INC and ADV buttons. Press ENTER to move to the next print slot. (If a print code is entered that is not legal, the message "Illegal Print Code!" will be sent out with the Formatted Print.)

When you are finished entering data to construct the formatted print, "99" is entered to mark the end of print formatting.

**NOTE:** The code "0" allows you to exit the building or examining of a formatted print at any time without destroying or altering print codes already entered.

## **EXAMPLE OF BUILDING A FORMATTED PRINT**

To build a simple formatted print that could be sent to a ticket printer the following print codes could be entered:

PSL 81 - 65 (This is a carriage return and line feed.)  
PSL 82 - 30 (Prints the gross weight with prefix and suffix.)  
PSL 83 - 65 (Sends another carriage return and line feed.)  
PSL 84 - 32 (Prints the net weight with prefix and suffix.)  
PSL 85 - 65 (Sends a carriage return and line feed.)  
PSL 86 - 31 (Prints the tare weight with the prefix and suffix.)  
PSL 87 - 65 (Sends a carriage return and line feed.)  
PSL 88 - 65 (Sends a carriage return and line feed.)  
PSL 89 - 99 (Ends the print format)

The result of the above formatted print is:

GROSS 1.205 LB  
NET 0.205 LB  
TARE 1.000 LB

# FORMATTED PRINT CODES

## Print Prefix and Suffix Formatted Print Codes

- 02 = Current Time (only with time and date option)
- 03 = Current Date (only with time and date option)
- 04 = Current weighing unit suffix label
- 05 = "GROSS" prefix label
- 06 = "TARE" prefix label
- 07 = "NET" prefix label

## ELTRON LP 2642 Print Commands

- 14 = Prologue
- 15 = Epilogue

## Print Data Only Formatted Print Codes

- 20 = Print Current gross weight
- 21 = Print Current tare weight
- 22 = Print Current net weight

## Print Prefix, Data, and Suffix Formatted Print Codes

- 30 = Print Gross weight prefix, data and suffix
- 31 = Print Tare weight prefix, data and suffix
- 32 = Print Net weight prefix, data and suffix

## Continuous Output Print Codes

- 50 = Continuous output (Formatted print will be sent continuously as long as scale is turned on.)
- 51 = Toggled continuous output (The formatted print will be sent continuously after the PRINT button is pressed or an SRP command is received by the scale. Pressing the PRINT or sending SRP a second time will turn off the continuous output.)
- 52 = Status Character (May be used by a computer to determine the condition of the scale at any given moment. See Page 14 for a list and definition of the characters sent.)
- 53 = ABO Checksum (May be used in building a continuous output compatible with other Pennsylvania Scales.)
- 54 = Select Leading Zeros
- 59 = No Operation

## **FORMATTED PRINT CODES** (cont'd.)

### **Print Special ASCII Characters Formatted Print Codes**

- 60 = Print an ASCII space (SP)
- 61 = Print an ASCII horizontal tab (HT)
- 62 = Print an ASCII line-feed (LF)
- 63 = Print an ASCII start of header (SOH)
- 64 = Print an ASCII carriage return (CR)
- 65 = Print an ASCII carriage return and line feed (CR LF)
- 66 = Print an ASCII form-feed (FF)
- 67 = Turn on large print (PA Scale printer)(SO, HEX 0EH)
- 68 = Turn off large print (PA Scale printer)(SI, HEX 0FH)
- 69 = Print an ASCII null (NUL)
- 78 = Invert print (PA Scale printer)(DC3, HEX 13H)
- 79 = End inverted print (PA Scale printer)(DC4, HEX 14H)

### **Formatted Print Codes**

- 0 = Exits building of formatted print without loss of previously entered print codes
- 91-98 = Repeat Codes (repeats previous entry 1 to 8 times.)
- 99 = Marks the end of the formatted print

### **CAL 0 Exit Calibration**

When a "0" is entered, the scale will reset itself, perform the diagnostic countdown, and return to the normal weighing mode.

# COMMAND FORMATS

All MDL 6400 Airline Baggage Scales may be calibrated and programmed through the RS-232 Interface using a terminal or computer. They are controlled by various commands, each three letters long, that represent related English phrases or words.

When the MDL 6400 Airline Baggage Scale receives a command string, it is first placed in a 125-character buffer. If many commands are sent to the scale at high baud rates, it is possible to completely fill this buffer and data will be lost. Be sure to send commands to the scale at a rate which does not exceed 125 characters every 500 ms.

The basic command formats are:

1. [`<add>`]`<cmd>``<cr>`
2. [`<add>`]`<cmd>` [`<flt>`]`<cr>`

Where `<cmd>` is a three-letter command, `<add>` is a scale address number (0-255), `<cr>` represents a carriage return, and `<flt>` is mixed number, the brackets [ ] are used to indicate an optional part of the command.

The following are some **EXAMPLES** of command formats:

## Command format 1:

SRP`<cr>`                      Send a formatted print

## Command format 2:

ITW 13.43`<cr>`                Instructs scale to set tare weight  
to 13.43 in the current unit

## Command format 3:

5 SGW`<cr>`                      Instructs scale with address #5 to  
send the gross weight.

# MDL 6400 Airline Baggage Scales SERIES RS-232 SCALE COMMANDS

## General Commands

ATW	Acquire Tare Weight
CHK	Initiate self-diagnostics CHeCK
LCK	LoCK out keypad
PON	Power ON
POF	Power OFF
RES	RESet, clears tare weight
UCK	UnloCK keypad
ZRO	ZeRO scale

## Commands Which Enter Information into the Unit

ITW [ FLOATING POINT NUMBER ]	Input Tare Weight
-------------------------------	-------------------

## Commands Which Request Information

SAI	Send All Information (All setup information)
SAO	Send Abbreviated Output (Same as SRP)
SCI	Send Configuration Information
SDT	Send DaTe (with time and date option only)
SGW	Send Gross Weight
SMI	Send Metrological Information
SNW	Send Net Weight
SRP	Send Requested Print
SPC	Send Print Codes
STM	Send TiMe (with time and date option only)
STW	Send Tare Weight
SVN	Send Software Version Number

## Calibrate and Configure Commands (\* requires SW4 to be pressed)

CAL*	CALibrate - Scale will follow push button cal.
CFC	ConFigure Communication - To set baud rate etc.
CFP	ConFigure Print codes - To enter print formatting.
CLE	CaLibration End - To save calibration data.
CLP*	CaLibration Primary - To set-up primary calibration data.
CLU*	CaLibration Unstable - To set-up print stable/unstable.
CLW*	CaLibration Weight - To calibrate with weights.

**NOTE:** All commands and parameters must be separated by spaces. The entire command string must be terminated with a carriage return.

## CONFIGURATION OF RS-232 COMMUNICATION PARAMETERS

The unit leaves the factory with the following default communication settings :

BAUD	300
WORD LENGTH	7 bits
STOP BITS	1
PARITY	ODD

These settings may be changed using the local or remote display keyboard as described above, or RS-232 Interface commands. If the RS-232 Interface is used, initial communication with the users computer or terminal must be established using the above settings. To return the RS-232 settings to the above default values:

1. Unplug the unit power cord or otherwise remove power.
2. Depress the internal Calibrate button.
3. Plug in (or energize) the unit and continue to hold the calibrate button for 5 seconds.

When communication with the scale has been established, the CFC (ConFigure Communication) command may be used as described under the RS-232 command section.

<u>COMMAND</u>	<u>FORMAT</u>	<u>DESCRIPTION</u>
CFC	CFC 9600 8 1 0 0 5 <ENT>	Selects 9600 Baud, 8 bit word length, 1 stop bit, no parity, no echo, and address #5. Other baud rates that can be used are: 300, 600, 1200, 2400, 4800 & 19200. Parity choices are: 0 is no parity, 1 is odd, 2 is even. Word length, 7 or 8. Stop bits, 1 or 2. Echo, 0 is off and 1 is on. Echo, 0 is off and 1 is on. Scale address # (0-255).

**NOTE:** Spaces must separate the settings and there must be 6 values.

## CONFIGURATION OF RS-232 PRINT CODES

These print code settings may be changed using either the local or remote display push-buttons, or through RS-232 Interface commands. When communication with the unit has been established, the CFP (ConFigure Print code) command may be used as follows:

<u>COMMAND</u>	<u>FORMAT</u>	<u>DESCRIPTION</u>
CFP	CFP 30 65 31 99 <ENT>	Send gross weight, CR\LF, Send the net weight, End.

Up to 21 print codes can be entered. Refer to the Formatted Print Code List for additional print codes.

**NOTE:** Spaces must separate the settings and a "99" must be the final print code. Refer to page 8 for further information on formatted print codes.

## CALIBRATION USING RS-232 SERIAL INTERFACE

This part of the calibration feature is designed to prevent unauthorized personnel from changing any of the parameters that would affect the accuracy of the unit. This includes the full capacity, weighing resolution, zero range, units, filter response, weight calibration, and whether printing is allowed when unit is stable or not. In order to change these parameters, the internal calibration switch (SW4) must be pressed.

### **Before beginning calibration:**

- For the MDL 64 Airline Baggage Scale, remove the two Phillips head screws on the right side of the enclosure lid and open the lid enough to access the CAL switch.  
**CAUTION:** *Care must be taken not to come in contact with the 110 volt power supply section on the far left side of the circuit board.*
- For the MDL 6400 Airline Baggage Scales, loosen the screws holding the lid latches on the top edge of the lid of the electronics enclosure, located in the base sub-frame. Open the lid to access the CAL switch. (Care must be taken not to come in contact with the 110 volt power supply on the far left side of the circuit board.)

**RESPONSE TO TERMINAL***(parenthesis indicate scale display message):*

"Push CALIBRATION SELECT Switch"  
(CALSEL)

Push the Calibrate Button now.  
This only has to be done once.  
After this, other commands can  
be entered.

**OR**

"W? Calibration Command Error"  
(CALErr)

If illegal values for the  
settings, incorrect number of  
settings, spaces not used  
between the settings, etc.

**NOTE:** **BEFORE EXITING CALIBRATION, THE "CLE" COMMAND  
(CALIBRATION END) MUST BE SENT TO SAVE THE  
CALIBRATION DATA EXCEPT WHEN "CAL" COMMAND IS  
USED!**

Unless otherwise indicated, the terminal responses and displays for the following  
serial interface commands are shown here *(parenthesis indicate messages on scale display):*

CR/LF

"Waiting for Calibration Command"  
(-232- )

If settings are acceptable.

**OR**

"? Calibration Command Error"  
(CALErr)

If illegal values for the  
settings, incorrect number of  
settings, spaces not used  
between the settings.

## CALIBRATION COMMANDS

**NOTE:** Spaces must separate the command and settings. And each command string must be terminated with a carriage return.

1. **CLP** - CaLibration Primary  
**COMMAND:** CLP 10.0 0.002 5.0 1                      Enters the Calibration Factors for the Primary weighing mode.

The example shown selects:

10.0 = Full scale Capacity  
0.002 = Resolution  
5.0 = Zero Range  
1 = Units code (lb)

2. **CLU** - CaLibration Print when Stable or Unstable  
**COMMAND:** CLU 0                                      Selects print when stable or unstable.

Options:        0 = Selects print when NOT stable  
                  1 = Selects print when Stable (Required for NTEP)

3. **CLW** - CaLibration Weight  
**COMMAND:** CLW 3                                      Enters the Standard Two (2) Point Weight Calibration using a filter response time of 3.

**COMMAND:** CLW 3 5.0                                      Enters the Weight Calibration with a filter response of 3 and a single point Calibration using a 5 lb. weight.

**COMMAND:** CLW 3 1 10                                      Enters the Weight Calibration a filter response of 3 and using a 1 lb. and a 10 lb. weight.

**NOTE:** Unless Calibration points are entered as part of the CLW command, Calibration points will default to one half, and one, times the full scale primary weighing range.

## **CALIBRATION COMMANDS** (cont'd.)

### **RESPONSE TO TERMINAL**(*parenthesis indicate local display message*):

"Internal A/D Calibration.- Please Wait"  
(-----)

Place the following weights on the platform, press ENTER (either on terminal or scale) after each:

0.000 lb\* (LoAd 0.000)  
5.000 lb\* (LoAd 5.000) (\* = Current weighing unit  
10.000 lb\* (LoAd 10.000) selected will be displayed.)  
0.000 lb\* (LoAd 0.000)

4. **CLE** - CaLibration End  
**COMMAND:** CLE

Ends the calibration process and stores the results in the unit's internal memory. The unit will then self-test and return to normal operation.

### **RESPONSE TO TERMINAL:**

"Saving CAL Data                      If data acceptable.  
CAL Completed"

## **CALIBRATION EXAMPLE**

Using the example commands from above, a typical sequence of calibration commands might be:

CLP 10.0 0.002 5.0 1	Enters the Primary Calibration Factors
CLU 0	Selects print while Unstable for non-NTEP
CLW 3	Enters the Weight Calibration Mode
CLE	Ends the calibration process, stores results

See the individual command descriptions for complete command and response information.

## USING THE "CAL" COMMAND

The "CAL" command may also be used to calibrate the scale. This command will cause the scale to enter the same calibration routine as the push button calibration process.

After the "CAL" command is sent to the scale it will prompt the operator to press the calibration select key (SW4). After SW4 is pressed the scale will prompt with: *(Brackets [] indicate scale display message)*

### Calibration Step (20)? [CALSEL]

At this point the operator may:

1. Press return to go to calibration step 21.
2. Key in the number of another calibration category and press return.
3. Key in a "99" and press return to leave calibration.  
*(These steps may also be performed from the scale keypad if it has one.)*

The following is a list of prompts the terminal or computer would receive after calibration mode has been entered. The parenthesis indicate the current entry in the scale. Words inside of { } will not appear on the screen, but indicate possible entries. The list below uses the standard entries for a 25 LB capacity scale as an example.

### Calibration Step (20)? 20\*

21 Full Capacity (25.000)? 25.000	{Enter scale capacity}
22 Primary Resolution (0.005)? 0.005	{Enter display resolution}
23 Zero Range (25.000)? 25.000	{Zero to full capacity}
24 Primary Unit ( 1)? 1	{Refer to chart on p. 5}
25 Print Operation (StAbLE)? 1	{1=stable, 0=unstable}

### Calibration Step (40)? 40\*

41 Filter Speed ( 3)? 3	{0(less filter) to 9}
42 No Load ( 0.000)? 0.000	{No weight on scale}
43 Half Load (12.500)? 12.500	{Place weight on scale}
44 Full Load (25.000)? 25.000	{Place weight on scale}
45 No Load ( 0.000)? 0.000	{Remove weight from scale}

### Configuration Step (60)? 60\*

61 Baud Rate ( 300)? 0	{Selections on p. 7}
62 Parity ( nonE)? 0	{0=none, 1=odd, 2=even}
63 Word Length (8 bit)? 1	{0=7 bit, 1=8 bit}
64 Stop Bit ( 1)? 1	{1 or 2}
65 Echo (no Ech)? 0	{0=no echo, 1=echo}
66 Comm Address (0)? 0	{0 to 255}

## USING THE “CAL” COMMAND (cont'd.)

### Configuration Step (80)? 80\*

81 Print Slot (65)?	65	{Print codes on p. 10}
82 Print Slot (30)?	30	{Print codes on p. 10}
83 Print Slot (65)?	65	{Print codes on p. 10}
84 Print Slot (99)?	99	{Print codes on p. 10}

### Configuration Step (99)? 99

#### Diagnostic...

8.7.6.5.4.3.

Wait for update display.2.1.0.

Wait.. Ready for Command

- At these steps:
  1. Pressing return will enter that calibration category.
  2. Keying any of the following numbers (20, 40, 60, 80) and pressing return will access that category.
  3. Keying in "99" and pressing return will end calibration.