# Chapter 4 Parameter Setup (Advanced)

The 450 series weigh indicators contain many selectable features which enhance the functionality of a basic setup. This section will describe how to access each of these advanced features from the parameter table. A specific parameter may be defined, how they are set up, and how they operate in separate chapters. Understanding the functionality of these extended features will permit you to quickly configure the unit for many basic weighing applications.

### 4.1 Getting Into the Parameter Setup Mode

Before starting to program the advanced features of the indicator to suit your application, let's review the procedures for getting into the setup mode, and how to program parameters. Some of these steps were previously covered in Chapter 3 Basic Weighing Parameter Setup.

1. To access the setup mode and make changes, press:

[**ZERO**] and [**SELECT**] simultaneously, then press the following keys separately:

#### [SELECT] [ZERO] [PRINT] [UNITS] [ENTER]

2. The indicator uses the large display to tell you that you're entering the Setup Mode and the smaller display to prompt you to enter the programming code.

The text convention used in this manual for keystrokes means you should press the keys labeled "ZERO" and "SELECT" simultaneously followed by the "SELECT" key followed by the "ZERO" key followed by the key labeled "PRINT" followed by the key labeled "UNITS", followed by the key labeled "ENTER". The Indicator will respond with the display showing:

### NOTE:

Once in the setup mode you can enter the number of any other parameter you wish to view or change. However the indicator will prompt you with the message "Key In Code" so that you can key in a different parameter number. Parameter numbers are entered by using the UP arrow and RIGHT arrow keys.

The method for entering the **455's** setup mode is listed below.

### [100] [SELECT] [23640] [ID] [ENTER].

The indicator will use the large display to tell you that you are entering the Setup Mode and will use the smaller display to prompt you to enter the programming security code. In addition to the regular keys, the Model 450 will accept an alphanumeric input similarly as the GSE Model 550 indicator. In other words the "100% s23640%i%e" string will work on the M450. This string can be initiated from a remote keyboard or taken in through its COMM Port. Also, when transmitted serially, the %c, %e and <CR> characters will function even though the keys don't exist on the M450. The following example assumes that a PIN number has not already been defined as the new access code.

### ie. 114%s23640%i%e

If you are simply going to <u>review</u> the setup, press [**ZERO**] + [**SELECT**] simultaneously then press [**ENTER**] and the indicator will briefly display that no modification ( -No- Mods!) can be made to the instrument setup before proceeding to the desired parameter.

If you want to <u>make changes</u> to the setup at this point, press:

[**ZERO**] and [**SELECT**] simultaneously, then press the following keys separately:

[SELECT] [ZERO] [PRINT] [UNITS] [ENTER] (M450) and the indicator will briefly inform you that modifications are permitted and will then display the desired setup parameter. By entering the password stated above, the indicator will permit the operator to make parameter changes.

If changes are made to any parameters, they may be canceled during the exit process. If no keys are pressed after you press **[ZERO]** + **[SELECT]** simultaneously, the indicator will automatically return to the Weigh Mode after approximately 5 seconds.

### 4.2 Using the Parameter Setup Mode

Once you have entered the Setup Mode the following general rules apply:

Press [SELECT] to move from parameter to parameter.

To move directly to a specific parameter, enter its number and press [SELECT].

Numeric entry selections are made by pressing the **[PRINT]** key, **UP** arrow and **RIGHT** arrow keys. The print key will start by displaying a decimal point and proceed to scroll through the numbers 0 - 9. A minus sign is available as one of the selections. Once the first desired digit is displayed, the **RIGHT** arrow key will move the the next digit. Once the full parameter number is displayed, press **[SELECT]**. The 455 has a numeric keypad available for numeric parameter selections. Key in the number and press **[SELECT]**.

To back up one parameter, press **[PRINT] [SELECT]** on the 450 and **[.] [SELECT]** on the 455.

If modifications are allowed, press **[ENTER]** to review the sub-set of available choices for each parameter selected.

You can make a specific parameter sub-set selection by entering its number and pressing **[ENTER]**. Numeric entries were previously described above.

For prompted questions, respond by pressing **[ENTER]** for "yes" and **[CLR]** for "no".

If you only want to review a parameter when first entering the Setup Mode, but later decide to make changes, press [ZERO] + [SELECT] simultaneously followed by **[SELECT] [ZERO] [PRINT] [UNITS] [ENTER]**. You will then be returned to the parameter you were reviewing, and be able to make changes.

While in the Setup Mode, the first digit of the large numeric portion of the display is always a P. The subsequent 3, 4 or 5 digits up to the decimal point indicate the currently selected parameter number. The current selection for the current parameter is indicated in the digits to the right of the decimal point. If the current selection is too large to fit in the available space, then triple dashes are shown in each digit after the decimal point, for example: "P114.==" If the parameter is strictly a key-in type, then a single dash is shown in each digit to the right of the decimal point.

The top line of the dot matrix display area shows the parameter name or use. The bottom line describes the current selection for the parameter.

### 4.3 Exiting the Parameter Setup Mode

At any point within Setup Mode, you can press **[ZERO]** to return to the Weigh Mode. If you initially keyed in the security code to allow changes, you will be asked if you want to perform a calibration. Press **[ENTER]** to perform a calibration. Press **[CLR]** to skip the calibration routine. Pressing any other key returns to the Setup Mode. Refer to chapter 7 for details on calibration.

If you made any changes to the setup, the indicator will ask you to press **[ENTER]** to save any modifications. If you press **[CLR]**, the indicator will ask you to press **[ENTER]** if you want to undo modifications. Press any other key to return to the Setup Mode. The indicator will prompt you to press **[ENTER]** to exit.

### 4.4 Parameter Types

There are two types of setup parameters in the indicator:

#### KEY-IN and SELECTABLE.

Key-in parameters, require a numeric entry followed by the **[ENTER]** key. Key-in parameters are identified by a pair of dashes on the right side of the data portion of the display. Selectable parameters are identified by a pair of digits indicating the parameter selection number. Selectable parameters provide you with a sub-set series of choices which may be displayed by pressing the **[ENTER]** key. You can also make your choice by directly keying in the selection number. For example, parameter P112 contains over 100 different selections. You could press the **[ENTER]** key to cycle through the selections, or you could key in the selection number and press **[ENTER]**. If you want to return to the first selection, press **[0] [ENTER]**. To locate a particular selection number refer to the parameter listings table 4-1 Software Map.

All of the programmable parameters are divided into the following groups:

**P110** to **P119** govern basic weighing setup which includes full scale definition, indicator precision, display update rates and linearization enable for Scale 1. The M450 has **1** scale input channel.

**P150** to **P157** set up the selection of units, their order of appearance and the custom units feature.

**P160** to **P164** set up Model Number, Tare operation and Accumulation functions.

P166 to P167 disable certain keyboard functions.

P181 to P184 setup counting capabilities.

**P200** to **P209** set up the basic communication protocols.

**P210** to **P212** set up the selection criteria for Custom Transmits 1. (Parameters P1000 to P1999 customize the data to be transmitted).

**P300** to **P309** assign the sequence of mode appearance when the [SELECT] key is pressed during weighing mode operation.

P320 to P321 is for setting up Dual-Range capability.

**P360** to **P361** is for changing *rounding* criteria for all parameter data.

**P400** to **P401** allows for assigning PIN numbers (personal identification numbers) for gaining access to the custom setup parameters and the Quick Cal mode.

P410 to P411 OIML parameter setup.

P412 is for *Preset* parameter setup.

P440 is for NTEP parameter setup.

**P500** to **P510** set up the Time-Date operations.

**P600** to **P691** is for naming the 1 incrementing register (REG).

**P720** is for setting the usage of the **[ID]** key. Selections are *none!*, *Truck* or *APW*.

**P800** is for Remote Key Input Setup (Gross acc., Net total, Print, Tare, Zero and Start.

**P900** to **P982** are for the Input Interpreter.

**P1000** to **P1999** are for the Custom Transmit, and define the data to be transmitted.

**P5100** to **P5115** are for setting up the standard programs relating to the *two* setpoint outputs (Check-weighing, fast/slow filling, Two ingredient batching, Tank emptying, Both filling/emptying, Check-weighing-Abs).

### 4.5 Character Entry

#### (Character entry with 450 keypad)

When alphabetic and other non-numeric characters are being entered into the indicator, the **[PRINT]** and **[UNITS]** keys assume the functions of arrow keys, UP and RIGHT arrows (see Figures 4-1 and 4-3, Keypad Cursor Keys at the back of this chapter). **[PRINT]** serves as an up arrow key to scroll forward through the list of characters; **[UNITS]** is used as a right arrow key to advance to the next location.

When you encounter a parameter that accepts this type of information, press [**PRINT**] and the indicator will place a "." in the dot matrix portion of the display. The [**PRINT**] key will then cycle through the possible

Note that some parameters in this list may not appear, based upon which parameters you have previously selected.

selections of 0 - 9 including the decimal point and a minus sign. If this is to be an alpha-numeric entry, press the **[UNITS]** key first to start with upper-case and lower-case letters, numerics and the standard set of punctuation symbols, starting with the letter "A". Holding down [PRINT] will cycle you through all the characters more quickly. In either case, numeric or alpha-numeric, the **[UNITS]** key will move you to the next location to the right. So when the desired character is displayed, press [UNITS] to move to the next location where an "A" will be displayed so you can select the next character. This operation is in effect while in Setup Modes P157, P691, P1000 - P1999 and P5100-5113. Refer to Figure 4-2 Character Listing for the available characters and their order of appearance.

#### (Character entry with 455 Keypad)

The **[UNITS]** and **[TARGET]** keys double as **Up** and **Down** arrow keys respectively. While having accessed any mode or parameter which requires a character entry, the **[UNITS]** key will scroll through a set of ASCII characters. The **[TARGET]** key will scroll through the set in reverse. The **[TARE]** key or Right Arrow when pressed will move over to the next character position. The **[ID]** key or Left Arrow will backup to the previous character.

As entries are keyed into the entry buffer, the **[PRINT/ENTER]** key will complete the entry for the 455.

Refer to figure 4-3 for description of 455 keyboard.

### 4.6 **Parameter Listing (P110 - P65002)**

This section contains a listing of all of the setup parameters contained within the Model 450 Weigh indicator. Refer to table 4-1, Parameter Listing (Software Map). We have attempted to list all of the parameters, however, in some cases where the number of available selections is repetitive, reasonably obvious, (as in the case of parameter **P300** series: Operational Modes) are too numerous to list individually, an example and a range has been substituted for the unlisted parameters.

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Table 4-1 below shows all the parameter selections in the 450 indicator. An Asterisk (\*) next to a parameter indicates a factory default setting.

Table 4-1

\* = Factory (GSE) Default Setting.

\* = Factory Default Setting

Software Map

PARAMETER # SELI	ECTION	DESCRIPTION
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BASIC INSTRUMENT SETUP (SCALE 1) P110 F.S.=	XXX.XXX * 100.00	Full Scale Capacity of Platform Load Cell.
P111.00 1 div P111.01 P111.02 P111.03 P111.04 P111.05 P111.06 P111.07 P111.08 P111.09 P111.10 P111.10 P111.11 P111.12 P111.13 P111.14 P111.15 P111.16 P111.17	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Set Count-By and Decimal Point
P111.23	500.	
P112.00 Ztapr P112.01 P112.02 P112.03 P112.04 P112.05 thru P112.°°	OFF 0.1 d 0.2 d 0.3 d 0.4 d * 0.5 d 20.0d	Set Zero Track Aperture in terms of divisions

PARAMETER #	SELECTION		DESCRIPTION
P113.00 ZTdly		0.05s	Set Zero Track Time Delay in seconds.
P113.01		0.1 s	
P113.02		0.2 s	
P113.03		0.3 s	
P113.04		0.4 s	
P113.05		0.5 s	
P113.06		0.6 s	
P113.07		0.7 s	
P113.08		0.8 s	
P113.09 P112.10	*	0.9 s	
P113.10		1.0 \$	
thru			
P113.00	10.0s		
P114.00 Mot'n		OFF	Define Motion in terms of divisions.
P114.01		0.1 d	
P114.02		0.2 d	
P114.03		0.3 d	
P114.04		0.4 d	
P114.05		0.5 d	
P114.06		0.6 d	
P114.07		0.7 d	
P114.08		0.8 d	
P114.09 P114.10	*	0.9 d	
f 114.10 thru		1.0 u	
P114.°°	20.0d		
P115.00 MtDly	0.05s		Define Motion in terms of
P115.01		0.1.s	seconds.
P115.02		0.2 s	
P115.03		0.3 s	
P115.04		0.4 s	
P115.05		0.5 s	
P115.06		0.6 s	
P115.07		0.7 s	
P115.08		0.8 s	
P115.09		0.9 s	
P115.10	*	1.0 s	
thru	10.0		
P115.00	10.0s		

PARAMETER #	SELECTION	DESCRIPTION
P116.00 Filtr	0.060s	Set Indicator response time
P116.01 P116.02 P116.03 P116.04 P116.05 P116.06 P116.07	0.013s 0.25s 0.50s * 1.0 sec 2.0 sec 4.0 sec 8.0 sec	in terms of seconds
<b>P117.00 Rate=</b> P117.01	0.05s * 0.1 s	Sets display update rate as updates per second.
P117.02 P117.03 P117.04	0.2 s 0.3 s 0.4 s	
thru P117. °°	20.0s	
P118.00 Zrnge of P118.01 P118.02 P118.03 P118.04	0.01% 0.02% 0.04% 0.1% 0.2%	Specify how much zero can be removed in terms of percent Full Scale.
thru P118.12°°	* 100.%	
P119.00 Linrz	* Disbl	Enables/disables Multi-Point Linearization.
P119.01	Enbld	
UNITS SETUP		
P150.00 UNITS	* =lb	Set calibration units as pounds.
P150.01	=kg	Set calibration units as kilograms
P150.02	=oz	Set calibration units as
P150.03	=g	Set calibration units as grams.
P150.04	????1	Set Calibration Units as Custom Units 1.

PARAMETER #	SELECTION		DESCRIPTION
P151.00 UNIT1	* =lb		Sets the power-up units as
P151.01		=kg	Sets the power-up units as
P151.02		=oz	Sets the power-up units as
P151.03		=g	Sets the power-up units as
P151.04		????1	grams Sets the power-up units as
P151.05		lb oz	Custom Units 1 Sets the power-up units as pounds-ounces
P152.00 UNIT2	=lb		Sets the second units as pounds
P152.01	*	=kg	Sets the second units as kilograms
P152.02		=oz	Sets the second units as
P152.03		=g	Sets the second units as grams
P152.04		????1	Sets the second units as
P152.05		lb oz	Sets the second units as
P152.06		=NONE	Disables the second appearing units
P153.00 UNIT3	=lb		Sets the third units as pounds.
P153.01		=kg	Sets the third units as ounces
P153.03		=g	Sets the third units as grams
P153.04		????1	Sets the third units as Custom
P153.05		lb oz	Sets the third units as pounds-
P153.06	*	=NONE	Disables the third units.

PARAMETER #	SELECTION		DESCRIPTION
P155Ucon1 P157Unam1	* 1.000 * ????1		Enter the conversion factor for the 1st Custom Units. Enter the name of the 1st Custom Units.
MODEL TYPE, TARE & ACCUMULATION			
P160.00 Model	(450 or	455)/RmDsp	Set the indicator to respond as a standard (M450 or M455) or as a
P161.00 TrSAV	* Disbl		Remote Display. Select whether or not you want to saveTare Weight on power-down
P161.01 <b>P162.00 TrNEG</b>	*	Enbld Disbl	Select whether or not to be able to tare out negative
P162.01	*	Enbld	numbers
P163.00 TrRND	Disbl		Elect whether or not to round
P163.01	*	Enbld	on tare values.
P164.00 AcRTZ	0.01%		Enter how close the platform
P164.01 to P164.02 P164.03 thru P164.12	*	0.02% 0.05% 0.1% 100.%	terms of Full Scale in order perform an Accumulation
KEY DISABLING			
P166.00 AutoT	Disbl		Enable/disable use of auto-
166.01	* Enbld		tare operation
P167.00 KybdT	Disbl		Enable/disable keyboard tare
P167.01	*	Enbld	operation
P168.00 Kybds	* Enbld		Enable/disable keyboard Select
P169.00 ATClr	* Disbl		Auto/Clear tare value when the gross wt. is within 5 grads of gross zero.

PARAMETER #	SELECTION	DESCRIPTION	
			1
PARTS COUNTING MODE (450/455)			
<b>P181.00 AEnhn</b> P181.01	off * on	Turn Auto-Enhance on or off	
<b>P182.00 SmpSz</b> P182	None! *10 1 to 9999	Sets default sample size	
<b>P183.00 %Accy</b> P183	None! 90.00 to 99.96	Sets Piece Weight Accuracy Select in .04% increments	
<b>P184.00 AcDsp</b> P184.01	* off on	Display Current Piece Weight Accuracy	
			<b> </b>

PARAMETER #	SELECTION	DESCRIPTION

TRANSMISSION PROTOCOL19200Set the baud rate for the Comm portP200.00 Baud19200Set the baud rate for the Comm portP200.01*9600P200.024800P200.032400P200.041200P200.05600P200.06300P200.07150P201.00 #data7bitsP201.01*P202.00 Par'y*P202.01even oddP203.00 #stop*P203.012bitsP204.02*P204.02*P204.03offP206.00 RxComoff	PARAMETER #	SELECTION	Ι	ESCRIPTION
TRANSMISSION PROTOCOL19200Set the baud rate for the Comm portP200.00 Baud19200Set the baud rate for the Comm portP200.01*9600P200.024800P200.032400P200.041200P200.05600P200.06300P200.07150P201.00 #data7bitsP201.01*8bitsSelect the number of data bits for the transmissionP202.00 Par'y*P202.01even oddP202.02oddP203.00 #stop*P203.012bitsP204.02*P204.03offP204.03offP206.00 RxComoffP206.00 RxComoff		1		
P200.00 Baud19200Set the baud rate for the Comm portP200.01*9600P200.024800P200.032400P200.041200P200.05600P200.06300P200.07150P201.00 #data7bitsP201.01*P202.00 Par'y*P202.01evenP202.02oddP202.02oddP203.00 #stop*P203.012bitsP203.012bitsP204.02*P204.03*P204.03*P206.00 RxComoffEnable or disable the record	TRANSMISSION PROTOCOL			
P200.01*9600P200.024800P200.032400P200.041200P200.05600P200.06300P200.07150P201.00 #data7bitsP201.01*8bitsSelect the number of data bits for the transmissionP202.00 Par'y*P202.01evenP202.02oddP203.00 #stop*P203.012bitsP204.01CTSP204.02*P204.03offP206.00 RxComoff	P200.00 Baud	19200		Set the baud rate for the
P201.00 #data7bitsSelect the number of data bits for the transmissionP201.01*8bitsSelect the number of data bits for the transmissionP202.00 Par'y*noneSelect the parity for all transmissions.P202.01even 	P200.01 P200.02 P200.03 P200.04 P200.05 P200.06 P200.07	* 9 4 2 1 6 3 1	9600 4800 2400 1200 500 300 150	Comm port
P201.01*8bitsInternational statesP202.00 Par'y*noneSelect the parity for all transmissions.P202.01even oddSelect the number of stop bits for all transmissionsP203.00 #stop*1bitSelect the number of stop bits for all transmissionsP203.012bitsSelect the type of hands used by the Com Port for sending and receivingP204.01CTS P204.02CTS stopP204.03offEnable or disable the receiver for the Com Port	P201.00 #data	7bits		Select the number of data bits for the transmission
P202.00 Par'y*noneSelect the parity for all transmissions.P202.01 P202.02even odd*Select the number of stop bits for all transmissionsP203.00 #stop*1bitSelect the number of stop bits for all transmissionsP203.012bitsSelect the number of stop bits for all transmissionsP204.00 ComHSnoneSelect the type of hands used by the Com Port for sending and receiving bothP204.01 P204.02 P204.03CTS * Xon bothEnable or disable the receiving for the Com Port	P201.01	* 8	3bits	for the transmission
P202.01 P202.02even oddeven oddP203.00 #stop*1bitSelect the number of stop bits for all transmissionsP203.012bitsSelect the type of hands used by the Com PortP204.01 P204.02 P204.03CTS *Select the type of hands used by the Com Port for sending and receivingP204.01 P204.03CTS bothEnable or disable the receiving for the Com Port	P202.00 Par'y	* none		Select the parity for all transmissions.
P203.00 #stop*1bitSelect the number of stop bits for all transmissionsP203.012bitsfor all transmissionsP204.00 ComHSnoneSelect the type of hands used by the Com PortP204.01CTSfor sending and receiving bothP204.02*Xon bothP204.03offEnable or disable the received for the Com Port	P202.01 P202.02	e	even odd	
P203.012bitsP204.00 ComHSnoneSelect the type of hands used by the Com PortP204.01CTSfor sending and receiving bothP204.02* Xon bothbothP206.00 RxComoffEnable or disable the received for the Com Port	P203.00 #stop	* 1bit		Select the number of stop bits for all transmissions
P204.00 ComHSnoneSelect the type of hands used by the Com PortP204.01CTSfor sending and receiving bothP204.02* Xon bothbothP206.00 RxComoffEnable or disable the received for the Com Port	P203.01	2	2bits	
P204.01CTSfor sending and receivingP204.02* XonbothP204.03bothEnable or disable the receivingP206.00 RxComoffEnable or disable the receiving	P204.00 ComHS	n	none	Select the type of handshake used by the Com Port
P206.00 RxCom off Enable or disable the red for the Com Port	P204.01 P204.02 P204.03	* 2 b	CTS Xon poth	for sending and receiving.
	P206.00 RxCom	С	off	Enable or disable the receiver
P206.01 * on	P206.01	* с	on	for the control.
P207.00 TxRTZ     0.01%     Select a return range for use with the weighment	P207.00 TxRTZ	0.01%		Select a return range for use with the weighment
P207.01 0.02% transmission in percenta Full Scale.	P207.01	C	0.02%	transmission in percentage of Full Scale.
P207.02       0.05%         P207.03       * 0.1%         P207.04       0.2%         P207.05       0.5%         thru       100 %	P207.02 P207.03 P207.04 P207.05 thru P207.12	* C	0.05% 0.1% 0.2% 0.5%	

PARAMETER #	SELECTION	DESCRIPTION
P208.00 Width	=0	Select the number of characters transmitted for
P208.01 P208.02 P208.03 P208.04 P208.08 P208.15	=1 $=2$ $=3$ $=4$ $* =8$ $=15$	numeric parameters if a fixed width format is used for the Custom Transmits.
<b>P209.00 TxHld</b> P209.01	* delay abort	Will delay or abort a transmission when the transmit buffer is full
CUSTOM TRANSMIT SELECTIONS		
<b>P210.00 Send</b> P210.01	off * onreq	Disable the 1st Transmit Send the 1st Transmit on
P210.02	cont.	Send the 1st Transmit
P210.03	wghmt	continuously Send the 1st Transmit after each weighment
<b>P212.00 Mot'n</b>	off * delay	Enable/disable motion delay for 1st Transmit
F 212.01	ueiay	
<b>REMOTE DISPLAY</b> (P160 set for Remote)		
<b>P270.00 TmOut</b> P270.01	* disbl enble	Enable/disable Time Out
<b>P271.00 Formt</b> P271.01	* dsply Text	Transmit <b>Display</b> information or <b>Custom Text</b> information.
P272.00 Addr	None!	Select unit address. (Available if P271
<b>P273.00 TxUse</b> P273.01 master.	* Pass Keys	is set for Text) Allow data to pass thru <b>TX</b> line. Allow unit's keys to control
P274.00 Start	* <stx></stx>	Data packet <b>Start</b> Character.

PARAMETER #	SELEC	TION		DESCRIPTION
REMOTE KEYS				
<b>P280.00 ZERO</b> P280.01	*	Disbl	Enbld	Enable/disable Remote keypad keys.
<b>P281.00 UNITS</b> P281.01	*	Disbl	Enbld	Enable/disable Remote keypad keys.
<b>P282.00 SELCT</b> P282.01	*	Disbl	Enbld	Enable/disable Remote keypad keys.
<b>P283.00</b> ↑ & → P283.01 master	*	Disbl	Enbld	Enable/disable Remote keypad keys. (Sends a %i command. A 450 responds to this as a down arrow key (▼) and 500 series instruments and 455 respond to it as an <b>[ID]</b>
key				operation.
<b>P284.00 TARGT</b> keypad keys. a 455		*	Disbl	Enable/disable Remote This is the <b>[TARGET]</b> key on
P284.01			Enbld	
<b>P285.00 TARE</b> P285.01	*	Disbl	Enbld	Enable/disable Remote keypad keys.
P286.00 ENTER	(M455)	*	Disbl	Enable/disable Remote
keypad keys. P286.01			Enbld	
P287.00 CLEAR		*	Disbl	Enable/disable Remote
keypad keys. P287.01			Enbld	
<b>P288.00 NUMBR</b> P288.01	*	Disbl	Enbld	Enable/disable Remote keypad keys.
REMOTE DISPLAY				
P290.00 Echo	*	Disbl		Disable transmitting units display to remote device.
P290.01 Echo		Comm		Echo unit's display to remote device out the comm port.
P291.02 Echo	*	<stx></stx>		Transmit any ASCII character or control code to remote device <u>before</u>

PARAMETER #	SELECTION	DESCRIPTION
P292.03 Echo	* <etx></etx>	echoing unit's display. Transmit any ASCII character or
		echoing unit's display.
OPERATIONAL MODES		
P300.00       MODE0         P300.01       P300.02         P300.03       P300.06         P300.09       P300.11         P300.12       P300.13         P300.13       P300.14         P300.30       P300.31         P300.35       P300.37         P300.50       P300.80         P300.84       P300.91         P300.99       P300.99	* Gross Net Tare GrTOT NtTOT Accum Tm/Dt TrGrs (M455 or TrNet (M455 or TrNet (M455 or TrTar (M455 or ID (M455 or ID (M455 or ID (M455 or Qty QtTOT APW APW*K Sampl TrTim Targ1 Targ2 <u>Reg 1</u> None!	Select the operating mode that will appear first after power-up. nly) nly) nly)
P300.99	None:	

PARAMETER #	SELECTION	DESCRIPTION
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PARAMETER #	SELECTION	DESCRIPTION
P301.00 MODE1	Gross	Select the operating mode that will appear next after pressing
<b>P301.1</b> thru <b>P301.99</b>	* Net	the <b>[SELECT]</b> key These 11 selections are the same as P300.00 MODE0
<b>P302.00 MODE2</b> thru <b>P309.00 MODE9</b>		Select the operating mode that will appear next after pressing the [SELECT] key.
<b>P302.1</b> thru <b>P309.99</b>		These 111 selections are the same as P300.00 MODE0
P302.2	* Tare	
DUAL RANGE OPERATION		
P320. Rng 1	* Disbl	<b>Key in</b> the value of the low range (Range 1) to establish dual range operation.
P32100 Div 1 P321.01 P321.02 P321.03 P321.04 P321.05 P321.06 P321.07 P321.08 P321.09 P321.10 P321.10 P321.11 P321.12 P321.13 P321.14 P321.15 P321.16 P321.17	$\begin{array}{cccc} 00001 \\ & 00002 \\ 00005 \\ .0001 \\ .0002 \\ .0005 \\ .001 \\ .002 \\ .005 \\ * & .01 \\ .02 \\ .05 \\ .1 \\ .2 \\ .5 \\ 1. \\ .2 \\ .5 \\ 1. \\ .2 \\ .5 \\ 1. \\ .2 \\ .5 \\ 1. \end{array}$	Set the count-by and decimal point for Range 1.
P321.23	500.	

	PARAMETER #	SELECTION	]	DESCRIPTION
	PARAMETER ROUNDING			
all value).	<b>P360.50</b> Rnd A	*	50%	Set the rounding criteria for parameter data (Key in a
values	P361.30 Rnd I	<b>}</b> *	30%	Allow for alternate rounding (undefined, contact GSE)
values	P362.01 Rnd 0	2 *	1%	Allow for alternate rounding (undefined, contact GSE)
	PERSONAL ID #			(
	P400 PIN	* None!		This parameter allows for a new user access code to be defined.
	P401 QCAL	* None!		This parameter allows for a new user Quick Cal. access code to be defined.
	EUROPEAN SPECIFIC MODIFICATIONS			
	P410.— OIML	* Disbl 9990	(CODE)	Disable OIML specifications. This parameter assumes that the OIML version keypad is being used. Code must be entered to change selection.
	P410.— OIML	* Enbld 9991	(CODE)	Enable OIML specifications. This parameter assumes that the OIML version keypad is being used. Code must be entered to change selection
	INTERNATIONAL CHARACTERS			must be entered to entinge selection.
	P411.00 LANG P411.01 LANG P411.02 LANG P411.03 LANG P411.04 LANG P411.05 LANG P411.06 LANG P411.07 LANG P411.08 LANG P411.09 LANG P411.10 LANG	* USA Frnce Germn UK Dnmrk Swedn Italy Spain Japan Norwy Dnmk2		The system has the ability to display international characters. Thirteen languages are selectable. Refer to the section on international character set for more information on this capability.

PARAMETER #	SELECTION	DESCRIPTION
	-	
PRESET CHARACTERS		
P412.00 PrSET	* Disbl	<u>P412</u> may be enabled to flag several parameters
P412.01 PrSET	Enbld	manually). When the Tare, Gross Total or Net
parameter	2 Ta 6 NtTOT	Total parameter is preset, the letter P will be displayed and printed before the 3 GrTOT name. 10.45 lb PTare 115.05 lb PGrTot 97.75 lb PNtTot
when it is or if it is lost after TrSav = Disbl). manner it		The Tare parameter is considered <u>not preset</u> when an auto-tare is performed or cleared by entering <b>0</b> [TARE] a power interruption (if P161 When the tare is changed in any other will be considered preset.
status		The gross and net total parameters are considered <u>not preset</u> if the total value of the parameter is cleared to zero. These parameters are preset when a non-zero value is entered by means other than an accumulation. Performing an accumulation does not affect the preset of an accumulation parameter.
<i>MTare</i> at will be displayed auto tare		If one of these parameters is renamed at P602, P603 or P606, then the first letter of the new name will become the preset identifier. For example, if <i>Tare</i> is renamed to be P602, then a manual tare entry as <i>MTare</i> instead of <i>PTare</i> , while an will be displayed only as <i>Tare</i> .
DISPLAY ON/OFF		
P420.00 Dsply	OFF * ON AUTO	Set mode of operation to shut off the display.
P421.00 WtThr	* 6d	Set window size in divisions the displayed value is allowed to fall between for the amount of
to the		time set at parameter P422 responding display function set at Parameter P420.

	PARAMETER #	SELECTION	DESCRIPTION	
		-		
	P422.00 WtThr	* 5min	Set window time frame the displayed value would have to be within the window size based at parameter P421.responding to the functionality of the display set at Parameter P420.	
	NTEP PARAMETER			
NTEP	P440.00 NTEP	* Disbl	When this parameter is <b>enabled</b> it insures compliance when printing and performing accumulations. Refer to the chapter on	
	P440.01	Enbld	Information Modes.	

PARAMETER #	SELECTION	DESCRIPTION

PARAMETER #	SELECTION	ESCRIPTION	
	_		
TIME/DATE PARAMETERS			
P500.SS Time	HH:MM	Enter correct time here if	
P501.YY Date	DA/MO	Enter correct date here if	
P502.00TmDat	* no	Determine whether or not the	
P502.01	yes	time and date will be displayed upon power-up.	
P503.00AM/PM	no	Determine whether time will	
P503.01	* yes	use 12 hour or 24 hour clock.	
P510.00 Style	* U.S.A	Determine the style of	4
P510.01	Int'l	the Time-Date display.	
NAMING PARAMETERS			
P600 Gross		Naming Parameters for Gross weight.	
P601 Net		Naming Parameters for Net weight.	
P602 Tare		Naming Parameters for Tare Weight.	
P603 GrTOT		Naming Parameters for Gross Total.	
P606 NtTOT		Naming Parameters for Net Total.	
P609 Accum		Naming Parameters for Accumulation	
P611 Tm/Dt		counter. Naming Parameters for Time and Date.	
P612 TrGrs	(M455 only)	Naming Parameters for Truck Grs Wt	
P613 TrNet	(M455 only)	Naming Parameters for Truck Net Wt	
P614 TrTar	(M455 only)	Naming Parameters for Truck Tare Wt.	
P621 ID	(M455 only)	Naming Parameters for ID register.	
P630 Qty		Naming Parameters for Quantity Reg.	

PARAMETER #	SELECTION	DESCRIPTION
P631 QtTOT		Naming Parameters for Quantity Total.
P634 APW		Naming Parameters for Average Piece Weight.
P635 APW*K		Naming Parameters for Average Piece Weight times 1000.
P637 Sampl		Naming Parameters for Last Sample Size used (GSE default is 10).
P650 TrTim		Naming Parameters for Truck Time.
P680 Targ1		Naming Parameters for Target 1.
P684 Targ2		Naming Parameters for Target 2.
P686 AVal1		Naming Parameters for independent setpoint #1 (activation value).
P687 RVal1		Naming Parameters for independent setpoint #1 (reset value).
P688 AVal2		Naming Parameters for independent setpoint #2 (activation value).
P689 RVal2		Naming Parameters for independent setpoint #2 (reset value).
P691 Reg 1		Naming Parameters for Reg 1.
TRUCK I/O AND APW OPERATIONS (SET OPERATION OF [ID] KEY) (455 ONLY)		
P720.00 Store	* None	Select "no" [ID] Key operation.
P720.01 Store	Truck	Select "truck" [ID] Key operation.
P720.02 Store	APW	Select "APW' [ID] Key operation.
P721.01 IDSiz	* 1	Key in ID data storage size (1 thru 48)

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PARAMETER #	SELECTION	DESCRIPTION
STANDARD REMOTE KEY SELECTIONS		
P800.00 Rmote	* None	Select no Remote Key operation.
P800.01 Rmote	GrAcc	Select remote Gross Weight Accumulation.
P800.02 Rmote	NtAcc	Selects remote Net Weight Accumulation.
P800.03 Rmote	Print	Selects remote Print operation.
P800.04 Rmote	Tare	Selects remote Tare operation.
P800.05 Rmote	Zero	Selects remote Zero operation.
INPUT INTERPRETER		
P900.00 RxInp RxInp	* Disbl Enbld	Formats data received through the P900.01 serial port
P901.00 RxTrm	<nul></nul>	Formats data sent through the serial port
P901.10 RxTrm	* <lf></lf>	Unit default terminating character
<b>P910.00 RxTyp</b>	* Unusd Char	Unused Character
P910.01 P910.02	Line	Line
P920 through P980		Input specifications #2 through #8.
CUSTOM TRANSMIT SETUP		
P1000 XXXXX thru P1999	XXXXX	Starting location for enter information for the 999 character Custom Transmit.
(455 only)P2000 XXXXX thru	XXXXX	Starting location for entering information for the 999 character
P2999 (455 only)P3000 XXXXX	XXXXX	Custom Transmit. Starting location for entering thru
	information for th	e 999 character <b>P3999</b>
	Custom Transmit.	
TARGET KEY SETUP		
(455 only)P5000 Targt	* Enabld Disbl	Enable/Disable [TARGET] key.

PARAMETER #	SELECTION I	DESCRIPTION
		-
STANDARD SELECTABLE PROGRAMS (setpoint related)		
P5100.0 SPt	* None!	Disables setpoint operation.
P5100.1 SPt	Ckwgh	Select Check Weighing operation.
P5100.2 SPt	Fill	Select Two-speed, single ingredient filling operation.
P5100.3 SPt	Batch	Select Two ingredient, single speed filling operation.
P5100.4 SPt	Empty	Select Two-speed emptying operation (Tank Weighing)
P5100.5 SPt	Both	Controls both Filling and Emptying of
P5100.6 SPt	CkAbs	Select Check Weighing operation. (Tolerances based on absolute values).
P5100.7 SPt	Indep	Independent setpoint operation.
Each of the Setpoint related operat selection of parameters specific to a time. If the selection "None!" is	ions above are defined individually be the selections operation will appear. chosen, no other parameter selections	elow. Once a setpoint program is selected, a Only one program selection is allowed for at will appear
P5100.1 SPt	Ckwgh	Select Check Weighing operation.
P5101. Targ1 value must five	Targ1	Enter the target weight for the item being check weighed. The be positive and greater than graduations but less than full
scale. <b>P5102. %Low</b>	%Low	Enter the percentage below target weight that the items may still be considered acceptable. Example: To accept items between 95 to 100
percent		of the actual target value, key in [5].
P5103. %High	%High	Enter the percentage above the target weight that the items may still be considered acceptable. Example: To accept items less than or equal to 103% of target weight, key in [3]

PARAMETER #	SELECTION I	ESCRIPTION
P5104.0 Based	Net	Specify whether the check weigh is to
P5104.1 Based The P5112) will mode Press the	Gross	of the item(s) to be checked. check weigh status (see only be displayed when the specified here is selected. [ENTER] to toggle between choices.
P5112.0 Stat character check P5112.1	%Targ Stat WtDev	Determines the use of the ten dot matrix display during weighing.
P5112.2 Stat bottom P5112.3 percentage of toward the target will line of the display.	Brief Stat None	<b>%Targ</b> will provide the same information as brief on the line. In addition, the weight achieved be shown on the top
difference on the scale and the top line		<ul> <li>WtDev will provide the same information as brief on the bottom line. In addition, the between the weight the target will be shown on of the display.</li> <li>Brief will cause the word "Over", "Under", or "Good" to appear on the</li> </ul>
units.		bottom line of the display. The top line will display the current
display.		None provides no indication of the check weigh status on the
P5113.0 Outpt P5113.1 (this would indicate an have one the other tolerance	0 = 2cond 1 = 3cond	Specify whether the relay outputs will be encoded to differentiate between over and under conditions require external logic to accept condition) or simply output activated for good and output activated for an out-of- condition. (For 2cond. good,

PARAMETER #	SELECTION	DESCRIPTION
P5100.2 SPt	Fill	Select Two-speed, single ingredient filling operation.
P5101. Targ1	XX.XX	Enter the target weight for the ingredient being filled. The value must be positive and greater than five graduations but less than full scale.
P5105. P.A.1 1st shut- the target entered for deactivate at	XX.XX	This is Pre-actuation value #1. This is a key in numeric entry. The value entered here is subtracted from the target value to establish the off point. (setpoint #2.) ie. If weight is 10 lbs, and "2" is P.A.1 then setpoint 1 will 10 - 2 = 8 lbs.
P5107.0 Strt1 a	Tare	<b>Tare</b> will automatically activate the two setpoints. This selection creates net zero due to the fact that a tare operation by convention will yield a net zero. Hence, as the NET weight falls between +/-5 grads of zero and motion has ceased the setpoints will activate. This mode will not allow an auto-start. (SPt's 1 & 2 are activated)
P5107.1 Strt1 board. This NET zero setpoints. Once <b>both</b> fill initial net respected. The the net	Remot	Remot requires an external contact closure on J11 of the main selection does not <b>require</b> a in order to activate its the remote key is initiated, <b>setpoints</b> are activated .The process will resume from the value to the actual target. All preactuation values are fill process will not resume if weight is above the target value.
P5107.2 Strt1	Auto	Auto start will automatically activate the two setpoints when the NET weight falls between +/-5 graduations of zero and motion has ceased.

PARAMETER #	SELECTION I	ESCRIPTION
P5109. P.A.2 2nd shut- the is setpoint 2 will	XX.XX	This is Pre-actuation value #2. This is a key in numeric entry. The value entered here is subtracted from the target value to establish the off point. (setpoint #1.) ie. If target weight is 10 lbs, and "1" entered for P.A.2 then deactivate at 10 - 1 = 9 lbs.
P5110.0 Lern2 will P.A.2 P5110.1 Lern2 fills.	Disbl Enbld	Enabling the Learn2 mode, automatically calculate a new value based on 5 previous
P5112.0 Stat character check P5112.1 P5112.2 Stat bottom P5112.3 percentage of toward the target will line of the display.	%Targ Stat WtDev Brief Stat None	Determines the use of the ten dot matrix display during weighing. %Targ will provide the same information as brief on the line. In addition, the weight achieved be shown on the top WtDev will provide the same information as brief on the bottom
difference on the scale and the top line units.		<ul> <li>Ine. In addition, the between the weight the target will be shown on of the display.</li> <li>Brief will cause the words "Fast", "Slow", and "Done" to appear on the bottom line of the display. The top line will display the current</li> </ul>
display.		None provides no indication of the fill mode status on the
<b>P5114.0 PrAc1</b> P5114.1 via the	Disbl Enbld	Enable/disable access to <b>preact 1</b> values from the <i>weigh mode</i> selectable modes (P300's).

	PARAMETER	#	SELECTION	DESCRIPTION
			-	-
	P5100.3 SPt		Batch	Select Two ingredient, single speed filling operation.
must be	P5101. Targ1		XX.XX	Enter the target weight for the <b>first</b> ingredient to fill. The value positive and greater than five graduations but less than full scale.
	P5105. P.A.1		XX.XX	This is the pre-actuation value #1. This is a key in numeric entry. The value entered here is subtracted from the target value to establish the preactuation shut-off point for ingredient #1 ( <b>setpoint #1</b> ). ie. If the target weight is 10 lbs, and "2" is entered for P.A.1 then setpoint 1 will deactivate at $10 - 2 = 8$ lbs.
will P.A.1	P5106.0 P5106.1	Lern1 Lern1	Disbl Enbld	Enabling the Learn1 mode, automatically calculate a new value based on 5 previous
a	P5107.0 Strt1		Tare	<b>Tare</b> will automatically activate the two setpoints. This selection creates net zero due to the fact that a tare operation by convention will yield a net zero. Hence, as the NET weight falls between +/-5 grads of zero and motion has ceased the setpoints will activate. This mode will not allow an auto-start. (SPt #1 is activated).
board. ' NET ze setpoint setpoint will star the actu values a process is above	P5107.1 Strt1 This ro t. Once t 1 rt al rre will not s e the target		Remot	<b>Remot</b> requires an external contact closure on J11 of the main selection does <b>not</b> require a in order to activate its the remote key is initiated, is activated. The fill process from the initial net value to target. All preactuation respected. The fill tart if the net weight value.
	P5107.2 Strt1		Auto	Auto start will automatically activate setpoint 1 when the NET weight falls between +/- 5 graduations

PARAMETER #		R#	SELECTION	DESCRIPTION
	P5108. Targ2		XX.XX	Enter the target weight for the <b>second</b> ingredient to fill. The value must be positive and greater than five graduations but less than full scale.
	P5109. P.A.2		XX.XX	This is the pre-actuation value #2. This is a key in numeric entry. The value entered here is subtracted from the target value to establish the preactuation shut-off point for ingredient #2 (setpoint #2). ie. If the target weight is 10 lbs, and "2" is entered for P.A.2 then setpoint 2 will deactivate at $10 - 2 = 8$ lbs.
	P5110.0	Lern2	Disbl	Enabling the Learn2 mode,
will P.A. 2	P5110.1	Lern2	Enbld	automatically calculate a new value based on 5 previous
allow a activate	P5111.0 Strt2 m ed).	2	Tare	Tare will automatically activate setpoint #2. This selection creates a net zero due to the fact that a tare operation by convention will yield a net zero. Hence, as the NET weight falls between +/-5 grads of zero and motion has ceased the setpoint will activate. This mode will not auto-start. (SPt #2 is
board. NET ze setpoin setpoin will sta the actuvalues process is abov	P5111.1 Strt2 This ero nt. Once nt 2 art ual are s will not ve the	2	Remot	<b>Remot</b> requires an external contact closure on J11 of the main selection does <b>not</b> require a in order to activate its the remote key is initiated, is activated. The fill process from the initial net value to target. All preactuation respected. The fill start if the net weight target value.
	P5111.2 Strt2	2	Auto	Auto start will automatically activate setpoint 2 when the NET weight falls between +/- 5 graduations of zero and motion has ceased.

PARAMETER #	SELECTION I	ESCRIPTION
P5112.0 Stat character check P5112.1	%Targ Stat WtDev	Determines the use of the ten dot matrix display during weighing.
P5112.2 Stat bottom P5112.3 percentage of toward the target will line of the display.	Brief Stat None	<b>%Targ</b> will provide the same information as brief on the line. In addition, the weight achieved be shown on the top
difference on the scale and the top line		<ul> <li>WtDev will provide the same information as brief on the bottom line. In addition, the between the weight the target will be shown on of the display.</li> <li>Brief will cause the words "FILL1", "FILL2", or "Done" to appear on the bottom line of the display. The top line will display the current</li> </ul>
units.		None provides no indication of the
display.		batch mode status on the

PARAMETER #	SELECTION	DESCRIPTION
P5100.4 SPt	Empty	Select Two-speed, emptying operation (Tank weighing).
P5101. Targ1	XX.XX	Enter the target weight for the amount being <b>dispensed</b> . The value must be positive and greater than five graduations but less than full scale.
P5105. P.A.1 1st shut- the target entered for deactivate at <b>originally</b> display the setpoint	XX.XX	This is Pre-actuation value #1. This is a key in numeric entry. The value entered here is subtracted from the target value to establish the off point. (setpoint #2.) ie. If weight is 10 lbs, and "2" is P.A.1 then setpoint 2 will 10 - 2 = 8 lbs less than the <b>displayed</b> value. ie. If the initially reads 135 lbs. then will deactivate at 135 - 8 =
P5107.0 Strt1 a net	Tare	<b>Tare</b> will automatically activate the <i>two</i> setpoints. This selection follows the previous method due to the fact that a tare operation will yield zero. Hence, as the NET weight falls between +/- 5 grads of zero and motion has ceased the setpoints will activate. This mode will not allow an auto-start.
P5107.1 Strt1 board require a NET setpoints. initiated, <b>both</b> unit net starting the from equal to	Remot	Remot requires an external contact closure on J11 of the main This selection does not zero in order to activate its Once the remote key is setpoints are activated. The determines the value of the point and proceeds to activate setpoints. The relative value starting point to finish will be the target value entered. ie. Target = 10 lbs. the display reads 37 lbs net, once the remote key is initiated, the unit will proceed to empty to a value 27 lbs net. All preactuation values are respected.

PARAMETER #	SELECTION	DESCRIPTION
P5109. P.A.2	XX.XX	This is Pre-actuation value #2. This is a key in numeric entry. The value entered here is subtracted from the
		target value to establish the 2nd shut- off point. (setpoint #1.) ie. If the target weight is 10 lbs, and "1" is entered for P.A.2 then setpoint 1 will deactivate at $10 - 1 = 9$ lbs. ie. (Tare to a net zero) Since this is an EMPTYING operation, the value "9" is assumed to be a "-9". As material is dispensed, the net value will drop negatively toward "-9".
P5110.0 Lern2	Disbl	Enabling the Learn2 mode, will automatically calculate a new P.A.2
P5110.1 Lern2	Enbld	value based on 5 previous fills.
P5112.0 Stat	%Targ	Determines the use of the ten character dot matrix display during check
P5112.1 Stat	WtDev	weighing.
P5112.2 Stat	Brief	<b>%Targ</b> will provide the same
P5112.3 Stat	None	line. In addition, the percentage of weight achieved toward the target will be shown on the top line of the display.
		WtDev will provide the same
		line. In addition, the difference
		between the weight on the scale and the target will be shown on the top line of the display.
		<b>Brief</b> will cause the words "Fast", "Slow" and "Done!" to appear on the bottom line of the display as
		proceeding through the emptying operation. The top line will display the current units.
		<b>None</b> provides no indication of the empty mode status on the display.
<b>P5114.0 PrAc1</b> P5114.1	Disbl Enbld	Enable/disable access to <b>preact 1</b> values from the <i>weigh mode</i> via the selectable modes (P300's).
<b>P5115.0 PrAc2</b> P5115.1	Disbl Enbld	Enable/disable access to <b>preact 2</b> values from the <i>weigh mode</i> via the

PARAMETER # S	ELECTION	DESCRIPTION
P5100.5 SPt	Both	Select control of both <b>filling</b> and <b>emptying</b> operations (tank applications).
P5101. Targ1	XX.XX	Enter the target weight for the <b>filling</b> operation. The value must be positive and greater than five graduations but less than full scale.
P5105. P.A.1	XX.XX	This is the <b>pre-actuation value #1</b> . This is a key in numeric entry. The value entered here is subtracted from the target value to establish the preactuation shut-off point for <b>setpoint #1</b> . ie. If the target weight is 1000 lbs, and "5" is entered for P.A.1 then setpoint 1 will deactivate at 1000 - $10 = 995$ lbs.
P5106.0 Lern1 will P.A.1 P5106.1 Lern1	Disbl Enbld	Enabling the Learn1 mode, automatically calculate a new value based on 5 previous
P5107.0 Strt1 a allow an activated).	Tare	<b>Tare</b> will automatically activate the two setpoints. This selection creates net zero due to the fact that a tare operation by convention will yield a net zero. Hence, as the NET weight falls between +/-5 grads of zero and motion has ceased the setpoint will activate. This mode will not auto-start. (SPt #1 is

PARAMETER #	ELECTION	DESCRIPTION
P5107.1 Strt1 board. This NET zero setpoint. Once setpoint #1 will value to the values not	Remot	<b>Remot</b> requires an external contact closure on J11 of the main selection does not <b>require</b> a in order to activate its the remote key is initiated, is activated. The fill process resume from the initial net actual target. All preactuation are respected. The fill process will resume if the net weight is above the target value.
P5107.2 Strt1	Auto	<b>Auto</b> start will automatically activate setpoint 1 when the NET weight falls between +/- 5 graduations of zero and motion has ceased.
P5108. Targ2	XX.XX	Enter the target weight for the amount being <b>dispensed</b> . The value must be positive and greater than five graduations but less than full scale.
P5109. P.A.2 shut- the target entered for deactivate at an value "8" is material is drop Over shoot	XX.XX	This is Pre-actuation value #2. This is a key in numeric entry. The value entered here is subtracted from the target value to establish the off point (setpoint #2) for emptying mode. ie. If the weight is 10 lbs, and "2" is P.A.2 then setpoint 2 will 10 - 2 = 8 lbs. Since this is Emptying operation, the assumed to be a "-8". As dispensed, the net value will negatively toward "-8" lbs. will eventually display -10
lbs.		
P5110.0 Lern2 will P.A.2 P5110.1 Lern2 fills.	Disbl	Enabling the Learn2 mode, automatically calculate a new value based on 5 previous
P5111.0 Strt2	Tare	<b>Tare</b> will automatically activate setpoint #2. This selection creates a net zero due to the fact that a tare operation by convention will yield a

PARAMETER #	ELECTION	DESCRIPTION
allow an		net zero. Hence, as the NET weight falls between +/-5 grads of zero and motion has ceased setpoint #2 will activate. This mode will not auto-start.
P5111.1 Strt2 board. This NET zero setpoint. Once setpoint #2 will value to the values	Remot	<b>Remot</b> requires an external contact closure on J11 of the main selection does not <b>require</b> a in order to activate its the remote key is initiated, is activated. The fill process resume from the initial net actual target. All preactuation are respected. The fill process will
not		target value.
P5112.0 Stat character check P5112.1 S	%Targ Sat WtDev	Determines the use of the ten dot matrix display during weighing.
P5112.2 Stat bottom P5112.3 S percentage of toward the target will line of the display	Brief Sat None	%Targ will provide the same information as brief on the line. In addition, the weight achieved be shown on the top
difference on the scale and the top line		<ul> <li>WtDev will provide the same information as brief on the bottom line. In addition, the between the weight the target will be shown on of the display.</li> <li>Brief will cause the words "Fill", "Empty" and "Done!" to appear on the bottom line of the display as proceeding through the filling and emptying operation. The top line will display the current units.</li> </ul>
the		empty or fill mode status on display.

P5100.6 SPtCkAbsSelect Check Weighing of (Absolute Target Mode).P5101. Targ1Targ1Enter the target weight for being check weigh be positive and gr graduations but let scale.P5102. LowLowEnter the value below targ weight that the items may considered acceptable. Ex.P5103. HighHighEnter the value above the t weight that the items may sconsidered acceptable. Ex.P5104.0 BasedNetSpecify whether the check be based on the net or the g of the item(s) to b check weigh statu only be displayed.P5112.0 Stat check%Targ StatDetermines the use of the is acception accept	PARAMETER #	SELECTION	DESCRIPTION
P5100.6 SPtCkAbsSelect Check Weighing og (Absolute Target Mode).P5101. Targ1Targ1Enter the target weigh for being check weigh be positive and gr graduations but let- scale.P5102. LowLowEnter the value below targ weight that the items may sconsidered acceptable. Ex. accept items equal to the target weight for that the items may sconsidered acceptable. tems equal to the target weight that the items may sconsidered acceptable. tems equal to the target weight that the items may sconsidered acceptable.P5103. HighHighEnter the value above the target weight that the items may sconsidered acceptable. tems equal to the target will p5104.1 BasedP5104.0 BasedNetSpecify whether the check be based on the net or the g of the item(s) to b check weigh stat only be displayed specified here is s s EENTER] to target theP5112.0 Stat character check%Targ StatDetermines the use of the idention as bri information as bri is set shown			
P5101. Targ1Targ1Enter the target weight for being check weigh be positive and gr graduations but let ecale.P5102. LowLowEnter the value below targe weight that the items may s considered acceptable. Ext accept items equal to the tar minus 2 fbs., key in [2] [ENP5103. HighHighEnter the value above the target weight that the items may s considered acceptable. Ext accept items equal to the tar minus 2 fbs., key in [2] [ENP5104.0 BasedNetSpecify wheth the items may s considered acceptable. Ext accept items equal to the tar descript items equal to the target weight that the items may s considered acceptable. Ext accept items equal to the tar descript items equal to the target weight for the P5104.0 BasedNetP5104.0 BasedNetSpecify wheth the items may s considered acceptable. Ext accept items equal to the target weight for the P5112.0 Stat%Targ StatP5112.0 Stat character check%TargDetermines the use of the identify information as brief information as briefP5112.2 Stat bottom%Targ will provi information as briefWtDevP5112.3 percentage of toward the target will line of the display.StatNoneWDev will provide the age will information as briefWtDevWtDev will provide the age weight tar be shown	P5100.6 SPt	CkAbs	Select Check Weighing operation (Absolute Target Mode).
P5102. LowLowEnter the value below targ weight that the items may s considered acceptable. Ex accept items equal to the ta minus 2 lbs., key in [2] [ENP5103. HighHighEnter the value above the t weight that the items may s considered acceptable. Ex accept items equal to the ta ue above the t weight that the items may s considered acceptable. Ex accept items equal to the ta 4 lbs., key in [2] [ENTER]P5104.0 BasedNetSpecify whether the check be based on the net or the g of the item(s) to b check weigh statu only be displayed specified here is s [ENTER] to togg]P5102.0 Stat character check%Targ portang bottomDetermines the use of the 1 dot matrix display weighing StatP5112.2StatBrief%Targ will provi information as bri line. In a weight ac be shown line of the display.	P5101. Targ1 value must five -scale.	Targ1	Enter the target weight for the item being check weighed. The be positive and greater than graduations but less than full
P5103. HighHighEnter the value above the t weight that the items may so considered acceptable. Ex accept items equal to the ta 4 lbs., key in [4] [ENTER]P5104.0 BasedNetSpecify whether the check be based on the net or the g of the item(s) to b check weigh statu only be displayed specified here is s [ENTER] to togglP5112.0 Stat character check%Targ P5112.1Determines the use of the t dot matrix display toward the target will line of the display.P5112.2StatWtDevWtDev weight a.WtDev will provide the set weight acceptable.	P5102. Low	Low	Enter the <i>value</i> below target weight that the items may still be considered acceptable. Example: To accept items equal to the target or minus 2 lbs., key in [2] [ENTER].
P5104.0 BasedNetSpecify whether the check be based on the net or the go of the item(s) to be check weigh statu only be displayed is specified here is s [ENTER] to togglP5112.0 Stat%TargDetermines the use of the identity displayed is specified here is s [ENTER] to togglP5112.0 Stat%TargDetermines the use of the identity displayed is specified here is s [ENTER] to togglP5112.0 Stat%TargDetermines the use of the identity displayed is specified here is s [ENTER] to togglP5112.2 Stat%TargDetermines the use of the identity displayed is specified here is s dot matrix display statP5112.2 StatStatWtDevWetBay will provide the set displayed is specified here is s dot matrix display statbottomP5112.3 percentage of toward the target will 	P5103. High	High	Enter the <i>value</i> above the target weight that the items may still be considered acceptable. Example: To accept items equal to the target or plus 4 lbs., key in [4] [ENTER].
P5112.0 Stat%TargDetermines the use of the todot matrix displaycharacter checkP5112.1StatWtDevweighingP5112.2StatBrief%Targ will provide information as brief%Targ will provide information as briefbottomP5112.3StatNoneline. In a weight ac be shownine of the display.WtDevWtDevWtDev	P5104.0 Based P5104.1 Base The P5112) will mode Press	Net Gross	Specify whether the check weigh is to be based on the net or the gross weight of the item(s) to be checked. check weigh status (see only be displayed when the specified here is selected. [ENTER] to toggle between choices
difference difference difference	P5112.0 Stat         character       P5112.1         P5112.2       Stat         bottom       P5112.3         percentage of       roward the target will         line of the display.       difference	%Targ Stat WtDew Brief Stat None	<ul> <li>Determines the use of the ten dot matrix display during weighing.</li> <li>%Targ will provide the same information as brief on the line. In addition, the weight achieved be shown on the top</li> <li>WtDev will provide the same information as brief on the bottom line. In addition, the between the weight</li> </ul>

PARAMETER #	SELECTION	DESCRIPTION
PARAMETER # On the scale and the top line units. display. P5113.0 Outpt P5113.1 (this would indicate an have one the other tolerance	SELECTION 0 = 2cond 1 = 3cond	<b>DESCRIPTION</b> the target will be shown on of the display. <b>Brief</b> will cause the word "Over", "Under", or "Good" to appear on the bottom line of the display. The top line will display the current         None provides no indication of the check weigh status on the         Specify whether the relay outputs will be encoded to differentiate between over and under conditions require external logic to accept condition) or simply output activated for good and output activated for an out-of-condition. (For 2cond, good,
the other tolerance within		output activated for an out-of- condition. (For 2cond. good, tol. will activate SPt #2 and bad, outside tol. will activate SPt #1).

PARAMETER #	SELECTION I	DESCRIPTION

P5100.7 SI	Pt	Indep		Select <i>Independent setpoint</i> operation.	
P5121.0 P setpoint 1 is to to toggle P5121.1 Pa P5121.2 Pa P5121.3 Pa P5121.4 Pa P5121.5 Pa	Parm1 arm1 arm1 arm1 arm1 arm1	* Qty GrTO NtTO QtTO	Gross	Specify what parameter be based on. Press <b>[ENTER]</b> between the choices.	
<b>P5122.0</b> A	.ctv1 .ctv1	* Above Below	,	Specify the state at which <b>setpoint 1</b> will be <i>activated</i> .	4
P5123. A	Val1	* 0.00		Keyin the setpoint value at which <b>setpoint 1</b> will activate.	
<b>P5124.0</b> Al side of P5124.1 Al	<b>Mtn1</b> Mtn1	* Inhib	Ignrd	Select whether the <i>activation</i> <b>setpoint 1</b> is motion inhibited or not.	
P5125.0 R is P5125.1 R P5125.2 R P5125.3 R P5125.4 R	kset1 kset1 kset1 kset1 kset1	* Tare Remo Auto Immed Value	t 1	Select the means by which setpoint 1 reset.	
P5127.0 R of inhibited or not. P5127.1 RI	2 <b>Mtn1</b> Mtn1	* Inhib	Ignrd	Select whether the <i>reset</i> side <b>setpoint 1</b> is motion	

PARAMETER #	SELECTION	DESCRIPTION
P5131.0 Parm2 setpoint 2 is to to toggle P5131.1 Parm2 P5131.2 Parm2 P5131.3 Parm2 P5131.4 Parm2 P5131.5 Parm2	* Gross Net Qty GrTOT NtTOT QtTOT	Specify what parameter be based on. Press [ENTER] between the choices.
P5132.0 Actv2	* Above	Specify the state at which <b>setpoint 2</b> will be <i>activated</i> .
P5132.1 Actv2	Below	
P5133. AVal2	* 0.00	Keyin the setpoint value at which <b>setpoint 2</b> will activate.
<b>P5134.0 AMtn2</b> side of P5134.1 AMtn2	* Ignrd Inhib	Select whether the <i>activation</i> <b>setpoint 2</b> is motion inhibited or not.
P5135.0 Rset1	* Tare	Select the means by which <b>setpoint 2</b> is reset.
P5135.1 Rset1 P5135.2 Rset1 P5135.3 Rset1 P5135.4 Rset1	Remot Auto Immed Value	
P5137.0 RMtn2 of inhibited or not. P5137.1 RMtn2	* Ignrd Inhib	Select whether the <i>reset</i> side <b>setpoint 2</b> is motion

|--|

PARAMETE	ER # AUTO	CONFI	GURATION DESC	RIPTION
<b>INFORMAT</b> The following by entry of or	ION AND I g parameters ne of their pa	DIAGNO S P60000 arameter	<b>STIC PARAMETERS</b> to <b>P65002</b> are part of a separate g numbers. Some may require the ir	roup that may be reached from any mode astallation of an <i>option</i> to the indicator.
P60000. E2I	ns	*	512	Displays the amount of $E^2$ memory.
P60001. E2A	vl		277	Displays amount of available $E^2$ memory.
P60100. 199 P60101. 045	3 0-		*GSE* 02002	Displays copyright assertion. Displays software revision code.
P60102. Jul	20		1995	Displays date code of the software.
P60200. B SI	N		XXXXX	Displays Main PC Board serial number.
P60201. Aud	Tr		XXXXX (In software Rev. before 072095)	Displays Audit Trail number.
P60202. I SN	11		XXXXX	Displays instrument serial number.
<b>P60203. Aud</b> the	Tr	Cal.	XXXXX (In software Rev. starting 072095	Displays Audit Trail (calibration event counter). Refer to NTEP section in chapter titled Information Parameters.
<b>P60204. Aud</b>	Tr	Setup	XXXXX (In software Rev. starting 072095)	Displays Audit Trail number. (configuration event counter). Refer NTEP section in the chapter titled Information Parameters.
P60205. Cus	tm Setup	MUST!	CHECK (In software Rev. starting 072095)	Displays parameters that must be checked to conform to NTEP guidelines. Refer to the chapter titled Information Parameters.
P61100. Crr	nt		mV/V	Displays an approximation of the current mv/V output of connected load cell or platform.

PARAMETER # AUTO-C	CONFIGURATION	DESCR	IPTION
Parameters 61101 thru 61121 are a board. Refer to Chapter 21 for info	Ill transferable parameters ass rmation about Swapping the A	sociated with t A/D to another	he unique A/D converter on the main unit.
P61101. CAL	Factr		Displays fine calibration factor. This parameter is for a single point calibration. This parameter is not accessible if P119 is enabled (Multi point Linearization)
P61102. ReZro	Re-Zero Weight		(Multi-point Emeanzation).
P61103. ZrTrk	Wght		Displays amount of weight in default units tracked off by the zero track feature since last use of the <b>[ZERO]</b> key.
P61104. CZero	%0		Coarse zero value calculated during calibration. This value is a combination of parameters 61110 thru 61112.
P61105. Fine Zero	XXXXX		Fine zero value calculated during during calibration.
P61106. CGain	XX		Coarse gain value calculated during calibration. This value is a combination of parameters 61113 thru 61116.
P61107. Fine Gain	XX		Fine gain value calculated during calibration.
P61110. Zero Adj25 P61110 achieve the	х		Compensation for the coarse zero (P61104) Any combination of thru 61112 will be used to value of P61104.
<b>P61111. Zero Adj50</b> P61110	х		Compensation for the coarse zero (P61104) Any combination of thru 61112 will be used to

PARAMETER #	INFORMATION	DESCRIPTION
achieve the		value of P61104.
P61112. Zero Ad100 P61110 achieve the	Х	Compensation for the coarse zero (P61104) Any combination of thru 61112 will be used to value of P61104.
P61113. Gain Adj1 P61113 achieve the	х	Compensation for the coarse gain (P61106) Any combination of thru 61116 will be used to value of P61106.
P61114. Gain Adj2 P61113 achieve the	х	Compensation for the coarse gain (P61106) Any combination of thru 61116 will be used to value of P61106.
P61115. Gain Adj4 P61113 achieve the	Х	Compensation for the coarse gain (P61106) Any combination of thru 61116 will be used to value of P61106.
P61116. Gain Adj8 P61113 achieve the	Х	Compensation for the coarse gain (P61106) Any combination of thru 61116 will be used to value of P61106.
P61117. AIN1 NROff	Х	Analog IN: This parameter compensates for the non-ratiometric offset.
P61118. AIN2 NROff	Х	Analog IN: This parameter compensates for the non-ratiometric offset.
P61119. AIN4 NROff	Х	Analog IN: This parameter compensates for the non-ratiometric offset.
P61120. AIN8 NROff	Х	Analog IN: This parameter compensates for the non-ratiometric offset.
P61121. VREF NROff	Х	Compensation of Reference Voltage. If the sense leads are shorted, then the reference voltage should be zero. If the leads are not shorted, this factor

	PARAMETER #	INFORMATION	DESCRIPTION
			will compensate for the error.
	P61130CAL-	WGHT1	Displays weight used for the first cal point of the Multi-Point Linearization feature (if enabled).
weight	P61131CAL-	FACT1	Displays cal adjustment factor for weights less than or equal to the shown in the preceding parameter.
	P61132CAL-	WGHT2	Displays weight used for the 2nd cal point of the Multi-Point Linearization feature (if enabled).
weight	P61133CAL-	FACT2	Displays cal adjustment factor for weights less than or equal to the shown in the preceding parameter.
	P61134CAL-	WGHT3	Displays weight used for the 3rd cal point of the Multi-Point Linearization feature (if enabled).
weight	P61135CAL-	FACT3	Displays cal adjustment factor for weights less than or equal to the shown in the preceding parameter.
	P61136CAL-	WGHT4	Displays weight used for the 4th cal point of the Multi-Point Linearization feature (if enabled).
	<b>P61137CAL-</b> weight	FACT4	Displays cal adjustment factor for weights less than or equal to the shown in the preceding parameter.
	P61138CAL-	WGHT5	Displays weight used for the 5th cal point of the Multi-Point Linearization feature (if enabled).
	P61139CAL-	FACT5	Displays cal adjustment factor for weights less than or equal to the shown in the preceding parameter
	P62000. Dsply press	Test	Performs a display test when you [ENTER]
	P64000. Send	Setup	Will send all current setup information

PARAMETER #	INFORMATION	DESCRIPTION
		out a designated port when you press <b>[ENTER]</b>
P64100. LnCnt	XXXXX	Displays the line count of the setup transmission.
P64101. ErCnt	XXXXX	Displays the number of errors which have occurred on the indicator
<b>P64102. 1stEr</b> occurred parameter	None!	Indicates the first error which on the indicator since this was last cleared.
<b>P64103. Debug</b> error	Off/ON	Enables/disables transmission of messages out a designated port as they occur.
P65001. Deflt	All	Used to reset all parameters to the factory default when the <b>[ENTER]</b> key is pressed (if changes have been allowed).
P65002 Deflt	-CAL	Used to reset all parameters except the cal values when the <b>[ENTER]</b> key is pressed (if changes have been allowed.

PARAMETER #	INFORMATION	DESCRIPTION



Figure 4-1 Model 450 Keypad Cursor Keys





Figure 4-3 Model 455 Keypad Cursor Keys

Figure 4-2 Character Listing