Chapter 3
Parameter Setup Mode (Basic Setup)

3.1 Parameter Setup Mode

Recall that there are two parts to the indicator display. There is a large six digit alpha-numeric display on the left side of the indicator and ten small dot matrix displays in two rows of five each to the right of the numerical display. Both sides of the display will be used during parameter setup procedures. To access the Setup Mode and make changes, press:

(M450)
[ZERO] and **[SELECT]** simultaneously, then press the following keys separately:

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

(M455)
From the weigh mode press the following keys.
1 0 0 [SELECT] 2 3 6 4 0 [ID] [ENTER]

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:

P110.__ __ F.S.=
100.0

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.

To enter the setup mode and not allow changes:

[ZERO] + [SELECT] simultaneously
[ENTER]

> **NOTE:**
>
> While at any point of the Setup Mode, you can press **[ZERO]** to return to the Weigh Mode. The indicator will then prompt you through the exit. process.

The indicator will now tell you that you can make **no** modifications to the setup.

To access Parameters separately and make changes, the following sequence must be executed either serially or from a remote keyboard. The sequence must consist of a Parameter number and a security code. The entire key stroke sequence to modify a Parameter is:
1 0 0 [SELECT] 2 3 6 4 0 [ID] [ENTER]

Let's take a closer look at this sequence. The "100" in this instance is Parameter 100 (more about Parameters in a moment), and the "23640" is the security code. (This coincidentally happens to be the street address of GSE!) If the security code is <u>not</u> used, the Parameters can be monitored, but **not** changed. If the security code <u>is</u> included, then the Parameters can be modified. But, what is a Parameter? Parameters are special dedicated memory registers within the indicator. They are always identified by the letter "P" preceding a 3 or 4 digit number, followed by a decimal point, followed by 1 or 2 digits. An example of a Parameter number is "P150.01" which is a Units Setup Parameter, which remembers that the calibration units in the indicator has been set to kilograms. If you wanted ounces instead, set Parameter P150.02. How do you know which number is which Parameter, and what does it do? That's what this manual is all about. It will provide you with Setup Parameter lists, explain the function, tell you how to change the Parameter, then explain the functional operation of the indicator. The manual has been divided into two basic types of discussion, one called **Parameter Setup** which is discussing changes to the Setup Parameters which customize your application, and **Weighing Operations** which is a functional description of how to operate the indicator once Setup Parameters have been set. Depending which chapter your reading it could be laid

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out in one type or the other and perhaps both. Basic Parameter Setup is covered in Chapter 3, advanced Parameters are addressed in Chapter 4 and Weighing/ keypad operations are covered in Chapter 5.

To enter the Information and Diagnostic mode press: **[ZERO]** and **[SELECT]** simultaneously then press the following keys separately:

[PRINT] [UNITS] [ENTER].

Backup Parameter Mode: When in the setup mode you can step back one parameter at a time by pressing **[UP ARROW]** (which will display a "**.**") and then pressing **[SELECT]**. Hence, on the 455 press **[.] [SELECT]**.

3.2 Basic Weighing Parameter Setup

P110.- - F.S.=

This parameter is used to determine the scaling of the instrument. Enter the intended full scale capacity of the connected load cell or weighing platform and press **[ENTER]**. Any value from 0.01 to 1,000,000 can be entered here. If you enter a value over 99,999, the indicator will round off the last three digits to .K, such as 100.K for 100,000. Press **[SELECT]** to save your choice and continue to the next parameter. As an example, if a 200 lb rated platform is to be used only up to 150 lb, then enter 150 for P110. This will insure an overload indication at applied loads greater than 150 lb and provide the greatest precision.

P111.XX 1 div

This parameter is used to define the weighing divisions (i.e. the count-by and decimal point placement). The selection made here will also determine the resolution of the indicator such that resolution equals the full scale value entered into P110 divided by the value selected for P111. If uncertain of the choice, press **[CLR]** and the indicator will automatically assign a division size based on a resolution of 10,000. Otherwise press **[ENTER]** to cycle through the available choices. When the correct selection is displayed, press **[SELECT]** to proceed to the next parameter.

P112.XX ZTapr

This parameter determines the Zero Track aperture. This sets the window for Zero Tracking measured in terms of the divisions specified in parameter P111.

NOTE:

In order to comply with NIST H-44 regulations, when the displayed increment is 10 or more and the data is exactly zero, the displayed and printed data will include more than one zero. For example, if the count-by is 10 the zero indication would be 00.; if the count-by is 500, zero would be shown as 000.

Selection 0 will disable the zero track feature. Press **[ENTER]** to cycle through the available selections. When the correct choice is displayed, press **[SELECT]** to advance to the next parameter. Remember that you could key in the selection number (in tenths of a division) and press **[ENTER]** to make a selection and then press **[SELECT]** again to advance to the next parameter.

P113.XX ZTdly

This parameter sets the time period that must elapse before the zero can be tracked off. This time is selectable from 0.0 to 10.0 seconds in increments of 0.1 seconds. Press **[ENTER]**to cycle through the available choices. When the correct choice for your application is displayed, press **[SELECT]** to advance to the next parameter.

P114.XX Mot'n

This parameter defines the amount of instability (in divisions as determined in P111) that will constitute Motion (the time is set in P115 below). Presence of Motion on the platform will delay any ZERO or TARE operations and will blank the Units Name (lb, kg, etc.) until motion is removed. Selecting P114.00 disables motion inhibition. Press **[ENTER]** to cycle through the available selections. When the correct choice is displayed, press **[SELECT]** to advance to the next parameter.

P115.XX MtDly

This parameter sets the time delay period for the Motion status. The scale must be stable within the number of divisions set in P114 for the time period set here for the Motion status to be removed. Press **[ENTER]** to cycle through the available choices. When the correct choice is displayed, press **[SELECT]** to advance to the next parameter.

P116.XX Filtr

This parameter establishes the display response time in terms of seconds, or how long the indicator takes to respond to a full scale weight. The higher the value selected, the longer the response time, but more stability will be achieved. Press **[ENTER]** to display the available selections. When the correct choice is displayed, press **[SELECT]** to advance to the next parameter.

A. Filtering Background:

The filter selections for the 450 indicator determine how the display responds to a changing weight signal. Faster filter selections allow the indicator to respond quickly to an applied weight at the risk of causing some instability due to vibration or wind currents. Slower selections will provide more stability in the presence of vibrations at the cost of a longer time to settle on a final value.

B. Standard Filter

Setup parameter P116 has eight standard selections, choices 0 through 7. The response time of the selections is rated in terms of the time required for the indicator to reach a final steady state after the application of a full scale load. Selection zero provides the fastest response, thus the least amount of filtering while selection seven provides the slowest response and the most filtering. Refer to table 3-1.

P117.XX Rate=

This parameter specifies how often the display is updated with new data. For example, if 0.05 is selected, the indicator will write data to the display every time an Analog/Digital conversion is made, since the A/D converter updates every 0.05 seconds, selections from 0.05 to 20.0 seconds are available. This parameter also sets the transmission rate for continuous transmits. Press **[ENTER]** to cycle through the available selections. When the correct one is displayed, press **[SELECT]** to advance to the next parameter.

P118.XX Zrnge

This parameter specifies how much zero can be removed in terms of % of Full Scale. This is ideal for tank weighing applications to prevent accidental ZERO operations and for Canadian applications which have a 4% or less requirement. Press **[ENTER]** to cycle through the available selections. When the correct one is displayed, press **[SELECT]** to advance to the next parameter.

Selection Standard Filter	Effective Full Scale Response Time (seconds) *
0	0.0625
1	0.125
2	0.25
3	0.5
4	1.0
5	2.0
6	4.0
7	8.0

Table 3-1, Filter Setup Selection

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P119.XX Linrz

This parameter enables or disables the Multi-Point Linearization feature. Press **[ENTER]** to toggle between the enable or disable selection. When the correct one is displayed, press **[SELECT]** to advance to the next parameter. When all selections are complete, press **[ZERO]**. If any of the calibration related parameters were changed, such as Full Scale, the indicator will now prompt you to perform a calibration. If you wish to re-calibrate, press **[ENTER]** and refer to the section on Calibration operation. If you do not wish to perform a calibration at this time, press **[CLR]** to skip the calibration. If any changes were made, the indicator will inform you and ask you to press **[ENTER]** to save the modifications. To undo any changes, press **[CLR]**. Then press **[ENTER]** again to exit the Setup Mode.

NOTE:
If you should decide to return to the Setup Mode during the exit process , press any key other than **[ENTER]** or **[CLR]**.