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Jumper and Keyboard Functions

Keyboard Functions

Throughout the manual we make a distinction between key names and commands. Key names such as ENTER are presented in all capital letters, and commands such as "select" are presented in lower case. For example:

"Press SELECT ..." — means to press the SELECT key on the key pad.

"Select an option..." — means to use the SELECT key to display an item, then press ENTER.

The following keys are commonly used when configuring the program blocks.

Numeric Keys input numeric entries such as threshold values and scale capacity. These keys are also used for alpha-numeric entries.

SELECT scrolls forward through a list of choices. As the SELECT key is pressed, programming items are listed and appear in the display area.

ENTER completes a response. Press ENTER after you have used the numeric keys to input data or used the SELECT key to display an option.

ESCAPE exits the current location. The parameters you have configured prior to pressing escape are saved when you exit. Each time you press ESCAPE you exit back to the previous level of setup. You may have to press ESCAPE several times to return to a desired location.

CLEAR clears the previous current entry and allows you to rekey the response.

ZERO allows you to back up in the current program block and return to the previous step if you are in the first two levels of setup. The ZERO key scrolls backward through a list of choices.

FUNCTION moves the cursor one character to the right allowing you to change one character in a text string such as a literal without clearing and reentering the string.

MEMORY moves the cursor one character to the left allowing you to change one character in a text string such as a literal without clearing and reentering the string.

Controller PCB

- **W1** jumper should be removed for 3 mV/V, installed for 2 mV/V analog load cell inputs.
- **W2** jumper is the voltage selection for the discrete output port PAR2. If jumpered between pins 1 and 2, the supplied voltage is 5 volts. If jumpered between pins 2 and 3 the reference voltage is 8 volts.
- **W3** jumper controls the on-board watchdog timer. It must be installed (enabled) except during testing at the factory.
- **W4-W7** (not shown) bypass the protective resistors installed in Lynx to protect the Controller PCB against miswiring to COM3. These jumpers should be installed only if communications problems occur when installing an RS-422/RS-232 converter to COM3. Leave the jumpers removed for all DigiTOL bases and most other applications.

Throughout this manual jumper status is denoted as follows:
ON = jumper in
OFF = jumper out.

- **SW1-1** is the setup enable switch. This switch should be ON to access all setup parameters.

Please note the direction of the OFF selection for Switch 1 settings.

- **SW1-2** is the legal-for-trade switch. SW1-2 should be ON for legal-for-trade applications. If ON, the Lynx requires setting SW1-1 OFF when exiting setup.
- **SW1-3** is the flash enable switch. SW1-3 must be ON when downloading new software. It must be OFF during normal operation.
- **SW1-4** is always OFF.

Soft Switch Settings

Before you can set program block parameters, you must enter the setup mode. To access the program blocks:

1. Press the FUNCTION key.
2. Press SELECT until the prompt **Setup?** is displayed, then press ENTER.
3. If the **Setup?** prompt is not displayed and the terminal returns to Normal Operation mode, try the following steps:
   - Remove AC power
   - Turn SW1-1 (on the Controller PCB) to the ON position
   - Power the terminal and repeat steps 1 and 2.

The first program block, Scale Interface (Scale I/F), should be displayed. Press ENTER to open this block or press SELECT to choose another block to open.

Scale Interface Program Block

The Scale Interface program block (Scale I/F) lets you set and calibrate the features that affect weighing performance.

Press ENTER at the **Scale I/F** prompt to access the Scale Interface program block and configure the sub-blocks.

Market Sub-block

The Market sub-block lets you select a country or market area and limit parameters that affect legal-for-trade programming options.

1. Press ENTER at the **Market** prompt to access this sub-block.
2. Press SELECT until the desired Market area is displayed, then press ENTER. Market areas include:
   - USA — United States
   - EC — European Community
   - Aus — Australia
   - Can — Canada
3. The Lynx automatically continues to the next sub-block, or you can press ESCAPE twice to exit the setup mode.

Scale Type Sub-block

The Scale Type sub-block prompts you for the type of scale that will be used.

1. Press ENTER at the **Scale Type** prompt to open the sub-block.
2. Press SELECT until the desired scale type is displayed, then press ENTER. Scale types include
   - Analog
   - DigiTOL (bench or portable)
   - DJBox (DigiTOL J-Box)
   - UltraResHi
   - UltraResLo
   - External

If DigiTOL J-Box is Selected
At the **Cells?** prompt, press SELECT to choose the correct number of cells connected to the DigiTOL J-Box (2-4). Press ENTER when the displayed number is correct.

If External is Selected
At the **Port?** prompt, press SELECT to indicate the port where the external scale is connected.

If the scale type is changed, Lynx displays the message **PleaseWait** as it exits setup mode and goes through the power-up sequence. You must reenter setup mode to continue configuring the program blocks.

3. Continue to the next sub-block or exit the setup mode.

Calibration Unit Sub-block

This sub-block lets you enter the units of measure to use when calibrating the scale and configuring capacity and increment size**. Recalibration is required if you change the calibration unit.**

1. Press ENTER at the **Calib Unit** prompt to open the sub-block.
2. At the **Unit?** prompt, press SELECT until the desired calibration unit is displayed, then press ENTER. Calibration units include

   - Pounds (lb)
   - Ounces (oz)
   - Tons (t)
   - Kilograms (kg)
   - Troy Ounces (ozt)
   - Metric Tons (ton)
   - Grams (g)
   - Penny Weight (dwt)
   - Pounds/Ounces (lb/oz)

   If Pounds/Ounces (lb/oz) is selected, the capacity and increment sizes entered in sub-blocks 4 and 5 must be ounce values. For example, configuration for a 100 lb capacity scale using 0.5 ounce increments would be 1600 for capacity and 0.5 for the increment.

3. Continue to the next sub-block or press ESCAPE to exit the setup mode.

External scale type is used when the Lynx will act as a remote keypad/ display for another Lynx or Mettler Toledo terminal, such as Jaguar, that is capable of handling Toledo Continuous Output and Command Input formats.

Capacity Sub-block

The Capacity sub-block lets you enter the maximum scale capacity. The capacity is given in the calibration units. The weight display will indicate **OVER RANGE** at 5 increments above this weight.

1. Press ENTER at the **Capacity** prompt to open the sub-block. Lynx displays the current scale capacity.
2. Key the desired scale capacity using the numeric keys.
3. Press ENTER to set the capacity.
4. Continue to the next sub-block or exit the setup mode.

Increment Size Sub-block

This sub-block lets you specify the increment size for the scale. An increment size is the smallest change in weight value that the terminal is able to display. For example, if the increment size is specified as 0.1 then, starting at 0.0 on the scale, adding an increasing load will cause the terminal to display 0.1, 0.2, 0.3 and so on through the entire weighing range of the scale. If you selected 0.2 for the increment size, the addition of an increasing load would display 0.2, 0.4, 0.6 as the weight is rounded to the 0.2 increment through the entire range.

1. Press ENTER at the **Increment** prompt to open the sub-block. Lynx displays the current increment size.
2. Key the desired increment value, then press ENTER to set the increment.

Shift Adjust Sub-block

The Shift Adjust prompt appears only if you selected Power Module (DigiTOL J-Box) as the scale type. When using a DigiTOL J-Box, each cell's output must be adjusted so that it is equal to the other cells. Cell adjustment is done by applying weight to each cell in sequence as prompted.

1. Press ENTER at the **Shift Adj** prompt to open the sub-block.
2. At the **EmptyScale** prompt, remove any weight on the platform, then press ENTER. The display reads **Cal Zero** as the terminal captures zero .
3. At the **Load On N** prompt, place on the platform a test weight equaling approximately 50% of the scale's capacity.

   The Lynx automatically shift adjusts the scale for the current load cell as the display reads **Cap Cell N**.
4. Repeat steps 2 and 3 for each load cell connected to the DigiTOL J-Box.
5. When all load cells are shift adjusted, the terminal indicates **Shift Done**. Continue to the next sub-block or exit the setup mode.

Linearity Correction Sub-block

Linearity correction lets you calibrate the scale using calibration reference weights at mid-scale and full-scale ranges. Linearity correction allows for compensation of the non-linear performance of a load cell(s) or weighing system. If linearity correction is enabled, the calibration process requires additional steps. The terminal must be calibrated or recalibrated **after** you enable linearity correction.

If linearity correction is enabled, you cannot do a span adjustment.

1. Press ENTER at the **Linearity** prompt to open the sub-block.
2. Select Y to enable or N to disable linearity correction.
3. Continue to the next sub-block or exit the setup mode.

Calibration Sub-block

Calibration involves emptying the scale then placing a known test weight on an empty platform and allowing the Lynx to capture values for zero and span. You can calibrate a scale with or without linearity correction. The Lynx prompts you through the calibration.

Without Linearity Correction

1. Press ENTER at the **Calibrate** prompt to open the sub-block.
2. At the **Empty Scale** prompt, remove any weight on the platform, then press ENTER. The terminal automatically captures zero while the display reads **Cal Zero.** The cursor moves across the display indicating the operation is in progress.
3. At the **Add Weight** prompt, place on the platform a test weight equaling the scale's capacity or another practical weight. Press ENTER.

   While there is no minimum amount of test weight for calibration; Mettler Toledo recommends 60 to 100%. A calibration error may result if insufficient weight is used.
4. Enter the amount of weight you added in step 3. Press ENTER. The terminal automatically captures span while the display reads **Cal Span**. A cursor moves across the bottom of the display indicating the operation is in progress.
5. The terminal indicates **Cal Done**, then continues to the next sub-block.

With Linearity Correction Enabled

1. Press ENTER at the **Calibrate** prompt to open the sub-block.
2. At the **Empty Scale** prompt, remove any weight on the platform then press ENTER. The terminal automatically captures zero while the display reads **Cal Zero.** The cursor moves across the display indicating the operation is in progress.
3. At the **Add Mid Wt** prompt, place a weight on the platform equaling between 35% and 65% of the scale's capacity.
4. Enter the amount of weight you added in step 3. Press ENTER. The terminal automatically captures mid-scale while the display reads **Cal Mid.** The cursor moves across the display indicating the operation is in progress.
5. At the Add **Full Wt** prompt, place weight on the platform equaling at least 90% of scale capacity or as much as is practical. Press ENTER.
6. Enter the amount of weight you added in step 5. Press ENTER. The terminal automatically captures full scale while the display reads **Cal Full.** The cursor moves across the lower display indicating the operation is in progress. When finished, the terminal indicates **Cal Done**.
7. Continue to the next sub-block or exit the setup mode.

Zero Adjustment Sub-block

The zero value is the scale-empty reference as determined during calibration. The Zero Adjustment block lets you re-establish this value to compensate for any change since the last calibration. The scale must be empty before resetting the zero value.

1. Press ENTER at the **Zero Adj.** prompt to open the sub-block.
2. At the **Empty Scale** prompt, remove any weight on the platform and press ENTER. The terminal automatically captures zero while the display reads **Cal Zero.** The cursor moves across the display indicating the operation is in progress. Lynx displays the message **Zero Done** when finished.
3. Continue to the next sub-block or exit the setup mode.

Span Adjustment Sub-block

The Span Adjustment feature lets you make minor span adjustments without completely recalibrating the scale. Adjust the span by placing known test weights on the scale prior to entering span adjust. The terminal guides you through the procedure.

1. Press ENTER at the **Span Adj.** prompt to access the sub-block.
2. At the **Add Weight** prompt, place a test weight on the platform.
3. Enter the amount of weight placed on the platform in step 2. The display reads **Cal Span** while the terminal captures the new span. The cursor moves across the display indicating the operation is in progress. When finished, the Lynx displays the message **Span Done**.
4. Continue to the next sub-block or exit the setup mode.

If linearity correction is enabled, you cannot do a span adjustment.

Gravity Adjustment Sub-block

This sub-block is designed to let you enter a factor to compensate for gravitational differences between Spartanburg S.C. and where the scale is currently located. The value must be 1.0000 if the scale is calibrated where it is being used.

The Gravity Adjust feature should not be used at this time. Any value other than 1.0000 will affect the calibration accuracy.

When you access the Gravity Adjustment sub-block, the current value is displayed.

1. Press ENTER at the **Gravity** prompt to open the sub-block. The display reads **Val?** and shows the current adjustment value.
2. Press ENTER to accept the current factor or enter a new gravitational factor. Use the charts in Appendix 4 to determine the appropriate constant.
3. Return to the first sub-block if desired, or exit the setup mode.

Character Set Sub-block

This sub-block lets you select the character set that Lynx will use for all displayed messages. Depending on the character set, some ASCII characters will be replaced automatically with specific international characters.

1. Press Enter at the **Char. Set** prompt to access the sub-block.
2. Press SELECT to choose the character set. Options include:

   - USA
   - France
   - Germany
   - England
   - Denmark-1
   - Sweden
   - Italy
   - Spain-1
   - Japan
   - Norway
   - Denmark-2
   - Spain-2
   - Latin America

Set your printer to match the character set chosen in this sub-block.

3. Press ENTER to use the displayed character set. Appendix 1 lists the ASCII characters that are replaced with this selection.

Time and Date Sub-block

This sub-block lets you set the time and date format. If you select "None" in step 3 below, the time or date feature is disabled.

To configure the sub-block:

1. Press ENTER at the **Time/Date** prompt, then press ENTER at the **Time Fmt?** prompt.
2. At the **Separ.?** prompt, select a character to separate hour, minutes, and seconds. Choices include:

   - (:) colon
   - (-) dash
   - (.) period
   - (sp) space

3. Next, select the desired time format. Choices include:

   - 24:MM — 24 hour clock, no seconds
   - 24:MM:SS — 24 hour clock with seconds
   - 12:MM — 12 hour clock, no seconds
   - 12:MM:SS — 12 hour clock with seconds
   - None — Time disabled through MEMORY key

The time format choices are given with the separator you selected in step 2.

4. Press ENTER at the **Date Fmt?** prompt.

5. At the **Separ.?** prompt, select a character to separate month, day, and year. Choices include:

   - (:) colon
   - (-) dash
   - (.) period
   - (sp) space
   - (/) slash

The date format choices are given with the separator you selected in step 5.

6. Next, select the desired date format. Choices include:

   - MM/DD/YY — Month (num), Day (num), Year (2 digits)
   - MMM/DD/'YY — Month (alpha), Day (num), Year (4 digits)
   - DD/MM/YY — Day (num), Month (num), Year (2 digits)
   - DD/MMM/'YY — Day (num), Month (alpha), Year (4 digits)
   - YY/MM/DD — Year (2 digits), Month (num), Day (num)
   - 'YY/MMM/DD — Year (4 digits), Month (alpha), Day (num)
   - None — Date disabled through MEMORY key

7. Press ENTER to continue to the next sub-block or press ESCAPE to exit the setup mode.

Weight Units Sub-block

The Weight Units sub-block lets you select a second unit of measure for weight display, and enable or disable units switching. You can select a second weight unit from various pre-programmed standard weight units, or you can create a special weight unit with a custom name and conversion factor.

To configure the sub-block:

1. Press ENTER at the **Wgt Units** prompt to open the sub-block.
2. At the **Ena 2nd?** prompt, select Y or N to enable or disable unit switching to second units. If unit switching is enabled, it will switch between the Main Units and the Second Units.

   Mettler Toledo recommends you disable unit switching when using setpoints to avoid errors and confusion.

The unit selected for calibration is the main unit.

3. If enabled, at the **2nd?** prompt, select a secondary weight unit. Selections include:

   - lb
   - kg
   - g
   - oz
   - lb-oz
   - ozt
   - dwt
   - t
   - ton
   - user (custom)

If User (Custom) Is Selected

A value up to six digits can be entered (five digits to the right of the decimal).

- At the **Fct?** prompt, enter a conversion factor. This factor is the number that will by multiplied by the main units to calculate the custom unit. Some rounding error may occur since this calculation uses a higher internal resolution to determine the converted value. Make sure that the maximum converted value does not exceed the display capacity of the display.
- At the **Name?** prompt, enter the name for the custom unit, up to three characters.

4. Continue to the next sub-block or exit the setup mode.

Power up Operation Sub-block

The Power-up sub-block lets you specify a time delay before the scale is operational. This delay allows a sufficient warm-up period for stabilization of the scale and load cell electronics.

Lynx displays a count-down clock indicating the time remaining in the specified warm up period.

To configure the sub-block:

1. Press ENTER at the **Power-Up** prompt.
2. At the **Delay** prompt, use the numeric keys to enter the number of minutes (0-99) that the Lynx will delay prior to indicating weight in normal operating mode.
3. Continue to the next sub-block or exit the setup mode.

Tare Operation Sub-block

The Tare Operation sub-block lets you enable or disable the various tare options the Lynx offers. You can enable or disable any combination of tare options depending on your needs. Three types of tare are available:

- **Pushbutton Tare** — If enabled, pushbutton tare subtracts the weight of an empty container on the scale when the TARE key is pressed. The Lynx displays the net weight when material is placed in the container.
- **Keyboard Tare** — If keyboard tare is enabled, you can enter the known tare weight of a filled container, then press the ENTER key to subtract the container tare weight from the gross weight and display the net weight of the sample. This is also called preset tare.
- **Auto Tare** — If auto tare is enabled, the terminal automatically tares the scale when the load on the platform exceeds a predetermined threshold value and settles to no-motion.

You can also configure:

- **Auto Clear Tare** — If auto clear tare is enabled, tare is automatically cleared and the indicator returns to gross mode when the weight goes above, then drops below a predetermined threshold value. You can also specify that tare be automatically cleared after a print operation.
- **Tare Interlock** — If tare interlock is enabled, limits are placed on how tare values can be cleared and entered in legal-for-trade applications.

Printing and tare operations will wait until a stable condition exists before proceeding with the action. See Stability Detect sub-block in this chapter for more information on setting the sensitivity.

To configure the Tare Operation sub-block:

1. Press ENTER at the **Tare Oper.** prompt to open the sub-block.
2. At the **Tare Ena?** prompt, select Y or N to enable or disable tare. If you select N to disable tare, the terminal proceeds to the Zero Operation sub-block. Access to other tare features is not possible if the tare feature is disabled.
3. At the **Tr Intlk?** prompt, select Y or N to enable or disable tare interlock.
4. At the **PB Tare?** prompt, select Y or N to enable or disable pushbutton tare.
5. At the **KB Tare?** prompt, select Y or N to enable or disable keyboard tare.
6. At the **Auto Tr?** prompt, select Y or N to enable or disable auto tare.

If auto clear tare after print is enabled, Lynx does not display the Clear Threshold prompt.

If Auto Tare Is Enabled

- Press ENTER at the **Threshold?** prompt; then enter the desired threshold value. The threshold value is a unit value such as 1.5 pounds. When weight on the platform exceeds the threshold value, then settles to no-motion, the terminal automatically tares.
- Press ENTER at the **Rst Thold?** prompt, then enter the desired reset threshold value. This is also a unit value and must be less than the tare threshold. When weight on the platform falls below the reset threshold value, as when the load has been removed, the terminal automatically rearms the auto tare trigger.
- At the **Chk Mot?** prompt, select Y or N to enable or disable the motion check. If enabled, the terminal checks for stability of the load on the platform before resetting the auto tare trigger.

7. At the **Auto Clr?** prompt, select Y or N to enable or disable auto clear tare. Auto clear tare depends on the tare interlock condition.

Tare will clear only at gross zero if tare interlock and auto clear tare are both enabled.

If Tare Interlock and Auto Clear Tare Are Enabled

The terminal proceeds to the Gross Recall prompt. Continue to step 8.

The tare value is stored in the Lynx's memory. In case of power loss, the terminal will display a correct net value when power is restored.

If Tare Interlock Is Disabled, and Auto Clear Is Enabled

- At the **Aftr Prt?** prompt, select Y to clear tare after a print command is issued, or select N to clear tare at a predetermined threshold value.

If Auto Clear Tare After Print Is Disabled

- Press ENTER at the **Clr Thold** prompt; then enter a unit value. When the gross scale weight exceeds then falls below the threshold value, the terminal automatically clears tare and returns to gross mode.
- At the **Chk Mot?** prompt, select Y or N to enable or disable the motion check. If enabled, the terminal checks for stability of the load on the platform before proceeding with auto clear tare.

8. At the **T Recall?** prompt, select Y or N to enable or disable the tare recall feature. If enabled, the terminal displays the tare value when you press FUNCTION in normal operating mode.
9. At the **G Recall?** prompt, select Y or N to enable or disable the recall gross weight feature. If enabled, the terminal displays the gross value when you press the FUNCTION key in normal operating mode.
10. Continue to the next sub-block or press ESCAPE to exit the setup mode.

Zero Operation Sub-block

The Zero Operation sub-block lets you set the zero reference parameters. You can configure any or all of the following options:

- **Power-up Zero** — automatically zeros the terminal at power-up if weight on the scale is within a given range. If the weight on the scale is beyond the designated range, the display will not read zero until weight falls within the range.
- **Pushbutton Zero** — manually compensates for material build-up on the scale and recaptures zero.
- **Zero Blank** — determines when the display will go blank if weight falls below gross zero.
- **Auto Zero Maintenance (AZM**) — automatically compensates for small changes in zero resulting from material build-up on the scale or temperature fluctuations.
- **AZM w/Net Mode** — automatically corrects zero close to both net zero and gross zero.
- **Center of Zero** — determines if the center-of-zero annunciator lights at gross zero only or at gross and net zero.

Power-up zero capture and pushbutton zero ranges are based on the actual calibrated zero. If the positive and/or negative range value for power-up zero is greater than that for pushbutton zero, it is possible for the scale to automatically capture more weight on power-up than can be compensated for manually.

To configure the sub-block:

1. Press ENTER at the **Zero Oper.** prompt to open the sub-block, then press ENTER at the **PwrUp Zr?** prompt to configure the power-up zero option.
2. At the **+ Range** prompt, enter a numeric value for the positive range of zero capture. You can enter a value from 0 to 10 indicating a percent of scale capacity.
3. At the **– Range** prompt, enter a numeric value for the negative range of zero capture. You can enter a value from 0 to 10 indicating a percent of scale capacity.

A pre-determined number of consecutive readings from the scale must fall within the range specified before the scale compensates for changes in the zero reference.

4. Press ENTER at the **PB Zero?** prompt to access these parameters.
5. At the **+ Range** prompt, enter a numeric value for the positive capture range. This value is a percent of scale capacity (0 - 99).
6. At the **– Range** prompt, enter a numeric value for the negative capture range. This value is also a percent of scale capacity (0 - 99).
7. At the **Under Zero** prompt, press ENTER to configure how far below gross zero the Lynx will continue to display weight.

Mettler Toledo recommends that power-up zero be disabled by setting Positive and Negative range to 0% for scales such as tanks and hoppers which may lose power in the middle of a control process.

8. At the **Blank?** prompt, enter 0-99 to specify the number of display divisions behind gross zero before the display shows **Under Zero.** The default is 5 divisions.
9. Press ENTER at the **AutoZrMain** prompt to access the parameters for this option.
10. At the **Rng?** prompt, enter a range (in divisions) within which the Lynx adjusts for small changes in zero. Enter divisions 0.01 - 99.9. Adjustments are made at a rate of 0.03 increments per second.

Pushbutton zero values are stored in the Lynx's memory. In case of power loss, the terminal will display an accurate weight when power is restored.

11. At the **AZM Net?** prompt, select Y to automatically correct gross zero in both net and gross weight modes. Select N for AZM to function only in gross mode.
12. At the **COZ?** prompt, select if the center-of-zero annunciator should illuminate at **Gross** only, at **G&N** (Gross and Net) zero, or be **Off.**
13. Press ENTER to continue to the next sub-block or press ESCAPE to exit the setup mode.

Stability Detection Sub-block

The stability detection feature determines when a no-motion condition exists on the weighing platform. The sensitivity level determines what is considered stable. Printing and tare operations will wait for scale stability before carrying out the command.

Stability detection occurs over a predefined period of time and allows a predetermined "acceptable" amount of motion in scale divisions. The acceptable amount of motion is considered the range and the period of time is called the interval.

To configure the sub-block:

1. Press ENTER at the **Stability** prompt, then press ENTER at the **Stab Rng** prompt.
2. At the **Range?** prompt, enter the acceptable motion range (+/- 0.1 to 99.9 divisions).

To disable motion detection, set the Range to 99.9 and the Seconds to 0.1.

3. Press ENTER at the **# Updates?** prompt to configure the period of time to check for no-motion.
4. At the **In XX sec** prompt, enter the number of seconds (0.1 to 1.0) that the weight must remain within the range values for a no-motion condition.
5. Continue to the next sub-block or exit the setup mode.

Vibration Rejection Sub-block

The Lynx has several filters to compensate for environmental disturbances such as vibration or noise. This sub-block lets you configure the TraxDSP filters for optimum vibration/disturbance rejection.

The Vibration Rejection sub-block allows programming of values including

- **Lowpass Filter Frequency** — Low Pass Frequency is the frequency above which all disturbances are filtered out. The lower the frequency, the longer the settling time required for the scale.
- **Poles** — The number of poles determines the slope of the filtering cutoff. For most applications, a slope value of 8 (analog load cell), 4 (DigiTOL load cell) is acceptable; however, decreasing this number will improve settling time slightly. For analog load cells, do not enter a value lower than 4 for this parameter.
- **Notch Filter Frequency (Analog Load Cell Only)** — The Notch Filter allows selection of one specific frequency that can also be filtered out. This enables setting the lowpass filter higher to filter out all but one frequency (that the notch filter will handle) and obtain a faster settling time.
- **Stability Filter** — The Stability Filter eliminates weight changes within a given range around a stable weight reading. This filter eliminates fluctuations in the

weight display created by movement. Do not enable the Stability Filter for dynamic weighing, batching, or filling applications. Use the stability filter only for static weighing applications.

The Adjust Notch parameter appears only if you are configuring an analog load cell. If configuring a DigiTOL load cell, Lynx proceeds to step 7.

To configure the sub-block:

1. Press ENTER at the **Vibration** prompt to open the sub-block.
2. At the **Autotune?** prompt, select N(o) to bypass the autotune process, or select Y(es) to automatically tune the lowpass and notch filters.

   If Y(es), the display reads **Measure 1** and the cursor moves across the display while Lynx measures the vibration under current conditions. Lynx then automatically displays Adjust 1 and the cursor moves across the display while Lynx adjusts the vibration filter accordingly.
3. Lynx can repeat the measure and adjust process up to six times depending on the amount and regularity of the vibration. When the vibration adjustment is made, Lynx indicates either **Auto Tune Completed or Auto Tune Failed** and continues to the next prompt.
4. Press ENTER at the **Low-pass?** prompt to configure the parameters governing the low pass filter. Disturbances falling below these parameters pass through the filter; disturbances above the parameters are filtered out.
5. At the **Freq?** prompt, enter the frequency above which disturbances are filtered out. You can enter frequency values in the range 0.2 to 9.9.
6. At the **Poles?** prompt, enter the number of poles.
7. Press ENTER at the **Notch?** prompt to configure the parameters governing selective filtering.
8. At the **Freq?** prompt, enter the frequency at which any disturbance is filtered out. You can enter frequency values in the range 0.0 to 99.9.

If the scale type is other than analog, the prompt for step 2 does not appear. Begin configuration with step 3.

9. At the **Stabilize?** prompt, select Y or N to enable or disable the stability filter. Use this for static weighing applications only.
10. Continue to the next program block or exit the setup mode.

The default values for vibration rejection that are programmed in the factory are good for most applications; however, if you find that the weight display is still unstable, the following steps may help:

a. Set the Low Pass filter to 9.9, poles to 8, and the Notch Filter to 0.0.

b. Lower the frequency setting of the Low Pass Filter by increments of 1.0 and observe the amount of variation at each setting. When you see a noticeable improvement in display stability, vary the Low Pass Filter setting slightly below the frequency setting in increments of 0.1 for minimum fluctuation.

c. Record the frequency and approximate number of increments variation for the settings that show noticeable reduction in display fluctuation. This is the lowest frequency of vibration causing the display to fluctuate.

d. Set the Low Pass Filter back to 9.9.

e. Set the Notch Filter to the frequency that caused the largest reduction in increments change (recorded in step c).

f. If the display is still fluctuating too much, repeat step b. observing the display fluctuation. Reduce the Low Pass Filter setting until the display is acceptable.

Always be sure to check the weight display setting time after each filter adjustment to be sure that the setting time is fast enough for the application.

Port Configure Sub-block

This sub-block lets you configure the serial ports on your terminal for data exchange. You can configure only those ports that are physically available. For example, if a DigiTOL scale is connected, its COM port will not be available for configuration.

See Appendix 1 of this manual for detailed information on hardware connections, data output format, and template programming and formats.

To configure the program block:

1. Press ENTER at the **Serial I/F** prompt to open the program block. Press ENTER at the **Port Confg** prompt.
2. At the **Port?** prompt, select COM1, COM2, or COM3 as the port to be configured.
3. Press ENTER at the **Parameters** prompt, then configure the following parameters.

   - Baud Rate
   - Data Bits
   - Stop Bits (COM2 and COM3)
   - Parity
   - Flow Control
   - Checksum

   Baud Rate
   The baud rate is the rate of information transfer in bits-per-second.

   - Press ENTER at the **Baud** prompt, then select the desired rate for the selected port. Baud rates include

     ♦ 300
     ♦ 600
     ♦ 1200
     ♦ 2400
     ♦ 4800
     ♦ 9600
     ♦ 19.2k
     ♦ 38.4k

Data Bits

Data bits refers to the number of bits that make up an ASCII character that is transferred between two units. Most Mettler Toledo equipment communicates using seven data bits.

- Press ENTER at the **Data Bits** prompt, then select 7 or 8 data bits.

COM1 always has 1 stop bit. If COM1 is selected, the Stop Bits prompt does not appear.

Stop Bits

The number of stop bits to be transmitted for each ASCII character can be selected for COM2 and COM3. Most Mettler Toledo products will work with either 1 or 2 stop bits.

Parity

Parity is an error checking mechanism for each byte.

- Press ENTER at the Parity prompt, then select the desired option. Parity options include

  Even — the terminal sends an even number of logic 1 data bits. If the sum is odd, an eighth logic 1 bit is added for an even total. If the sum is even, a 0 bit is included to leave it unchanged.

  Odd — the terminal sends an odd number of logic 1 data bits. If the sum is even, an eighth logic 1 bit is added for an odd total. If the sum is odd, a 0 bit is included to leave it unchanged.

  Space — the eighth bit is always OFF (logic 0).

  Mark — the eighth bit is always ON (logic 1).

  None — for use with eight data bits.

XON/XOFF requires character input. It will only work if the serial port has no other input connections. For example, you cannot configure command In and XON/XOFF on the same port.

Flow

The flow parameter lets you control data flow from the selected port to a peripheral device such as a printer that supports XON/XOFF data flow. If enabled, Lynx monitors the XON/XOFF characters and controls data flow to help eliminate buffer overflow problems that can cause printing errors.

- Press ENTER at the **Flow Ctrl** prompt.
- At the XON/XOFF prompt, select Y(es) to enable the handshake or N(o) to disable the handshake. If enabled, the Lynx stops transmission on receipt of the XOFF character (13h) and resumes on receipt of the XON character (11h).

Checksum

Checksum is selectable for both demand and continuous output modes.

Checksum is a method of checking each line of data transmitted by encoding a check digit character at the end of the string. The receiving device must be able to calculate and compare this character to verify that the data is correct.

Checksum is defined as the 2's complement of the seven low-order bits of the binary sum of all characters preceding the checksum including control characters. Bit 8 of the checksum is the parity bit (if enabled) of the seven low-order bits of the checksum character.

- Press ENTER at the **Checksum** prompt, then select Y or N to enable or disable the transmission of the checksum character.

Connection

The Lynx is programmed at the factory for a demand output and a command input for COM1. No other serial connections are preset. The type of connection determines if the both input and output can be configured. If Host or ENQ continuous mode is selected, both input and output are required. In this case, the prompt for input does not appear. If Demand or other continuous output is selected, a separate input mode can be configured for that port.

1. Press ENTER at the **Connection** prompt.
2. Press ENTER at the **Output?** prompt, to configure the output for this COM port, or press SELECT if you wish to configure input for the COM port. Lynx displays the current data mode for the COM port.
3. Press ENTER to accept the current data mode or press SELECT to choose a different mode. Options include:

   - Demand
   - Continuous
   - Host
   - None

When interfacing a Lynx in Demand mode to an 8806, be sure to configure Start of Text as the first character of the template. This is done automatically in Continuous mode. Please refer to the Configure Template sub-block.

Demand

- Press ENTER at the Sign Corr prompt to configure the net sign correction feature.
- At the Sign Cor? prompt, select Y or N to enable or disable net sign correction in the demand output print. If enabled, Net Sign Correction compares the weight in the tare register with the current weight on the scale and configures them so the net weight is always positive.

Net Sign Correction allows you to store a gross weight in the tare register, then print the correct gross, tare, and net values when the tare weight is placed on the scale.

- Press ENTER at the DP/Comma prompt, then press SELECT to choose comma or decimal point in the serial output data.
- Press ENTER at the Sel Templ prompt, then select the template to use with demand printing (ptp01 or ptp02). Templates are custom output formats configured in the Edit Template sub-block.
- Continue to Step 4 to program the input connection.

Continuous

- Press ENTER at the **Format** prompt to select a format for the continuous output. You can select either standard or short form. These formats are described in Appendix 1 at the back of this manual.
- Press ENTER at the **Status Byt** prompt, then select either standard status bytes or status byte with setpoints. Setpoint status bytes are required when converting the Lynx to a Model 3015 setpoint controller.
- Press ENTER at the **Frequency** prompt, then select the frequency at which the continuous output port will transmit data. Options include:
  - ♦ A/D Synchronized output after each A/D cycle (approximately 20 Hz for analog load cells and approximately 10 Hz for DigiTOL load cells)
  - ♦ ENQ Synchronized (each time an ASCII ENQ is received)
  - ♦ User Rate (selectable from 0.1 to 20 Hz, but limited to the actual A/D rate of the load cell type)

If User Rate is selected, at the **Rate** prompt, enter the desired frequency for the continuous output.

- Continue to Step 4 to program the input connection.

Host

- Press ENTER at the **Host** prompt, then select the desired host mode emulation. Options include:
  - ♦ 8142 mode
  - ♦ 8530 mode
  - ♦ SICS (High Precision) mode

Appendix 2 describes the format, protocol, and commands for Host mode.

If 8142 or 8530 is selected, at the **Address?** prompt, enter a number (2 to 9) or letter (A-Z) representing the address to use for communications. This allows RS-422 and RS-485 multidropping.

If SICS is selected, no further parameters need to be configured and Lynx returns to the Port prompt.

If output type is Host, the Input? prompt does not appear.

4. If output type is Demand or Continuous, press ENTER at the **Input?** prompt, then select the input mode for the COM port. Options include:
   - Command
   - String
   - None

Command

No further parameters need to be configured. The command input mode performs several basic functions based on ASCII control characters received through the serial port. ASCII control characters and Lynx responses include:

XXXXX can be any number of digits from one increment to scale capacity. Leading spaces or zeros are not required.

C	Clears the scale from net to gross mode
T	Tares the current weight on the scale
xxxxxT	Enters xxxxx as a preset tare value (include decimal)
P	Initiates a print sequence
Z	Zeros the scale
U	Switches display units

When responding to a prompt, if an ASCII carriage return is received, the data is entered on the display and automatically steps to the next prompt. If an ASCII carriage return is not received, the data will be entered on the display but will not proceed to the next step. This allows the operator to edit the string input data.

String

String input is used from another serial device (such as a computer or bar code reader) to input data to the Lynx. Data can be responses to operator prompts or can be used as a tare value when the Lynx is in normal operating mode.

The following parameters must be programmed for the specific type of string input that will be used.

- Press Enter at the **Terminator** prompt to configure parameters for the termination of the string input. String input can be terminated by either timing out after the last character received or when a specific character is received (for example an ASCII line feed character).
- At the **Timeout** prompt, select Y or N to enable or disable the timeout parameter for string termination.

  If Timeout is Enabled

  - At the **Val?** prompt, enter the number of seconds (0.0 to 9.9) to pass after the last character is received for Lynx to terminate the input string.
  - Press ENTER at the **First Char** prompt, then at the **Char#?** prompt, enter the string position representing the first character to be used as the input to the prompt. This allows you to strip off any leading characters that are not part of a response.

    Lynx recognizes the last character according to length of the string as determined in the Configure Prompts sub-block of the Memory program block.

  If Timeout is Disabled

  - At the **Char?** prompt, press SELECT to choose the ASCII character that will terminate the string input. You can select the displayed ASCII character or enter in a number, character, or upper case letter from the Lynx keyboard.
  - Press ENTER at the **First Char** prompt, then at the **Char#?** prompt, enter the string position representing the first character to be used as the input to the prompt. This allows you to strip off any leading characters that are not part of a response.

If you are creating templates that are similar to each other, use the copy and ion, edit template features to save time.

Lynx recognizes the last character according to length of the string as determined in the Configure Prompts sub-block of the Memory program block.

5. At the COM1? prompt, configure another serial port or press ESCAPE to continue.

Configure Template Sub-block

This sub-block lets you define one or two flexible templates. Templates are pre-configured output strings that are transmitted when a print operation is requested. Appendix 1 lists Lynx's default templates. You can use the default templates as they are given or edit them to create custom templates.

Templates are composed of elements which are any printed character, special character, or data field. Templates can include weight data, time and date, literal fields (for a name and address), and the prompts and responses from a prompt list. You can also add individual printable ASCII characters such as * or = characters and special ASCII characters (control characters) for extra printer control.

Each template can store up to 800 format characters. When configuring a template, you should test-print occasionally so the Lynx will "compile" the template and determine if space remains for more elements. If you overfill the allocated template space, Lynx responds with the message **Template Overflow** and the data that exceeds the 800 character limit will be lost.

1. Press ENTER at the **Edit Templ** prompt to open the sub-block.
2. At the **TPL?** prompt, press SELECT to choose the number of the template you wish to edit or create (ptp01 or ptp02).
3. Select the action you want to take with the selected template. Actions include:

   - Clear Template
   - Copy Template
   - Edit Template

   You must respond Y(es) or N(o) to the prompt for each action.

Clear Template

Select Y or N at the **Clear?** prompt. If Y(es), you must confirm your decision at the **Sure?** prompt.

Copy Template

Select Y or N at the **Copy?** prompt according to whether you want to copy a template or not. If Y(es), select Other or Default, then confirm your selection at the **Sure?** prompt. The current template will be cleared before the new template is copied.

Edit Template

When interfacing a Lynx in Demand mode to an 8806, be sure to configure Start of Text as the first character of the template. This is done automatically in Continuous mode.

Select Y or N at the **Edit?** prompt if you wish to edit the current template. If Y(es), you can edit, insert, or delete template components.

If Y(es) the Lynx displays **Elem # 001** (element number 001) for two seconds indicating that the first element of the template is being recalled, then the actual data for element 001 is displayed. If **End of Template** is displayed, then the template is empty.

- Press SELECT to display the next element in the template. Press ZERO to display the previous element in the template. You can access any element in the template using the SELECT and ZERO keys.

  You can also access specific elements by entering the number of the desired element. After entering the first digit of a new element, the display reads **Element? x** where "x" is the digit just entered. When the complete element number has been entered, press ENTER to access that element.

- Press ENTER to begin editing the displayed element. You can also begin editing at the end of template position.

- After the **Action?** prompt has been displayed for two seconds, select an editing option.

  If the element number you enter is greater than the last element number in the template, the Lynx automatically displays the last element in the template.

  EDIT allows you to "replace" the current element with new data. The current element is automatically deleted.

  INSERT allows you to insert a new field or character before the currently displayed element. All following elements are moved back one element number.

  DELETE deletes the current element and moves each remaining element up one element number.

  DEL END deletes all remaining elements from the displayed position to the end of the template.

- If you are editing or inserting, select a data type after the **What?** prompt clears (two seconds). Data can be field information, printable ASCII characters, or special characters.

FIELD refers to actual data fields available through the Lynx such as time, date, prompts, literals and weight data. Enter a field code defined in the following Field Code tables.

Although the Field Code table shows codes in lower case, Lynx accepts field codes entered in upper or lower case.

Lynx Data Field	Field Code	Length
Tare Source Description	ws109	2 A/N "<space> <space>", "T<space>", or "PT"
Setpoint Value - SP1	st105	10 A/N
Setpoint Values	st205, st305, stx05*	10 A/N
Preact Value - SP1	st106	10 A/N
Preact Values	st206, st306, stx06*	10 A/N
Dribble Value - SP1	st108	10 A/N
Dribble Value - SP2	st208	10 A/N
Weight Tolerance Value - SP1	st110	10 A/N
Weight Tolerance Value - SP2	st210	10 A/N
Zero Tolerance Value	zt104	10 A/N
Time of Print	jag20	11 A/N
Date of Print	jag19	11 A/N
Consecutive Number	jag09	8 N
Literal 01†	lit01	40 A/N
Literal 02†, etc	lit02, lit..	40 A/N
Prompt 01‡	pmt01	16 A/N
Prompt 02‡, etc	pmt02,pmt..	16 A/N
Prompt 01 Response	var01	As Programmed
Prompt 02 Response, etc	var02, var..	As Programmed
Template 1***	ptp01	As Programmed
Template 2***	ptp02	As Programmed
Accumulator Total	acc01	10 A/N
Accumulator Subtotal	acc02	10 A/N
Current Quick ID	idc02	2 N
Current Record ID	idc03	10 A/N
Current Description	idc04	20 A/N
Current Stored Tare	idc05	10 A/N
Current ID Accumulator	idc06	10 A/N
Current ID Transactions	idc07	8 N

* The setpoint number should be inserted for x.

** pb = pushbutton tare, kb = keyboard (preset) tare.

† Refer to the section entitled Configure Literals Sub-block in the Configure Memory Program Block later in this chapter for more information on entering literals.

‡ Refer to the section entitled Configure Prompts Sub-block in the Configure Memory Program Block later in this chapter for more information on entering prompts.

*** Using a template field code within another template will insert the entire template into the output.

Although the Weight Data field table shows codes in lower case, Lynx accepts field codes entered in upper or lower case.

Weight Data Field	Field Code	Length
Displayed Gross Wt.	wt101	12 A/N
Displayed Tare Wt.	ws102	12 A/N
Displayed Net Wt.	wt102	12 A/N
Displayed Wt. Units	wt103	3 A/N
lb/oz Gross Wt.*	wt104	12 A/N
lb/oz Tare Wt.*	ws103	12 A/N
lb/oz Net Wt.*	wt105	12 A/N
Scale Mode (Gross/Net)	ws101	1 A/N (G or N)
Custom Unit Conversion Factor	cs103	8 A/N
Custom Unit Name	cs102	3 A/N

* lb/oz weight fields are active only while displaying lb-oz units.

CHAR refers to normal printable ASCII characters on the Lynx keypad and CR/LF (carriage return and line feed) characters. Enter ASCII characters from the Lynx keypad. CR/LF makes the termination of a printed line faster than selecting each character individually, and allows quick addition of multiple new lines to advance to the end of the page or to a position a line on a page. To choose CR/LF as a character, press SELECT at the **Character?** prompt.

For more information on entering alphanumeric characters, please refer to the section entitled Alphabetical and Special Character Entry in Chapter 4 of this manual.

At the **Quant?** prompt, enter the number of the selected character to print.

SPEC CHAR refers to "special" control characters that are not on the Lynx keypad or non-printable ASCII characters such as ASCII SO (shift out - 0E hex) which may be used for printer control. Special characters also include lower case letters and various punctuation not available on the Lynx keypad. Use Lynx's SELECT and ZERO keys to scroll through the list of these characters and choose a character.

Refer to Appendix 1in the Service Manual for a list of special characters.

At the **Quant?** prompt, enter the number of the selected character to print.

Formatting options allow you to customize the appearance of printed data and helps align data on the page. You can also limit the data field width which can help to eliminate unwanted characters.

- At the **Format?** prompt, select the data position (justification) and field width. If field width is less than the code length default specified in the Field Code tables (above), characters will be stripped off automatically. Justification choices include:

  DEFAULT prints data as defined by Mettler Toledo default.

  LEFT prints data left justified within the field width. At the **Width?** prompt, enter the number of characters to define the field width.

Format options Left, Center, and Right use more memory than Default.

  CENTER prints data centered within the field. At the **Width?** prompt, enter the number of characters to define the field width.

  RIGHT prints data right justified within the field. At the **Width?** prompt, enter the number of characters to define the field width.

  When the element is viewed on the display, the data is shortened to fit in the display area. The following examples illustrate the displayed data format.

  Example 1

  /wt101 L 15 where:

  "/" indicates a Lynx Data Field. The other possibility is "A" for ASCII character.

  "wt101" is the gross weight field code.

  "L" indicates this field is left justified. Other possibilities are "R" for right and "C" for center.

  "15" is the specified field width.

  Example 2

  A 'G' 001 where:

  "A" indicates an ASCII character. The other possibility is "/" for a Lynx Data Field.

  "G" is the ASCII character selected.

  "001" is the quantity of the "G" character to be transmitted. Printing multiple characters is a quick way to add spacing or create custom printouts. For example, multiple underscores (_) can create a signature line.

4. Press ESCAPE when the template is finished or if you want to "compile" the template.

Print test allows you to check your data output without exiting the template sub-block.

5. At the **Prt Test?** prompt, select Y or N to initiate or skip a test print of the template. If Y(es), the data defined by the template will print.

   If more than one port is programmed as capable of printing the test, Lynx may prompt you to select a specific port for output.

Print template gives a hard-copy record of the template configuration that can be useful for "debugging" a format as you configure the template.

6. At the **Prt Temp?** prompt, select Y or N to print the template elements. If Y(es), template elements are printed in the shortened format described above.

   If more than one port has been programmed to print this specific template, Lynx may prompt you to select a specific port for output.

7. At the **Finished?** prompt, select Y if you are finished or N to return and continue editing this template.

8. Continue to the next sub-block, or exit setup mode.

Configure Printer Control Sub-block

This sub-block lets you configure certain parameters that control when and how data is output to a printing device. These parameters apply generally to the Lynx; they are not port specific. To configure the printer control sub-block:

1. Press ENTER at the **Print Ctrl** prompt.

2. At the **Min. Prt?** prompt, select Y or N to enable or disable minimum print. If enabled, printing is possible only when scale weight exceeds a minimum value. If weight exceeds the threshold value, multiple prints are possible. Lynx prompts you for the minimum print threshold value.

3. At the **Prt I/L?** prompt, select Y or N to enable or disable print interlock. If enabled, Print Interlock disallows printing until weight on the scale exceeds a threshold value. Multiple prints are disabled until scale weight falls below then exceeds the threshold value again. Lynx prompts you for the print interlock threshold and reset values.

4. At the **Auto Prt?** prompt, select Y or N to enable or disable automatic printing. If enabled, printing will begin when scale weight is at no-motion above a threshold value. Auto-print requires the weight to drop below the reset threshold before another auto print operation can take place. Lynx prompts you for auto-print threshold and reset values.

   If Enabled

   - Press ENTER at the **Prt Thres?** prompt, then enter a weight value. Lynx automatically prints when weight on the scale exceeds this threshold value.

   - Press ENTER at the **Rst Thres?** prompt, then enter a weight value. Lynx automatically resets when weight on the scale falls below this reset value.

   - At the **Chk Mot?** prompt, select Y or N to enable or disable the motion check feature. If enabled, Lynx waits for the load on the scale to stabilize below the reset value before allowing another print operation above the threshold value.

Configure Inputs Sub-block

This sub-block lets you configure Lynx's three inputs for various input functions. Inputs are found on the PAR1 discrete input connector. To initiate the input command, the appropriate input must be held to logic ground for at least 100ms, then released. The blank display input must be held to ground to keep the display blank.

To configure inputs:

1. Press ENTER at the **Confg In** prompt to access the sub-block.
2. At the **Input? 1** prompt, press ENTER to configure Input1, or press SELECT to choose input 2 or 3. Press ENTER when the desired input is displayed.
3. Press SELECT to assign a function for the selected input. Options include

   - Tare
   - Clear
   - Zero
   - Print
   - Switch Units
   - Blank Display
   - None

4. Press ENTER to return to the **Input? 2** prompt. From here you can configure the next input.
5. Repeat steps 3 and 4 for all inputs.
6. Press ESCAPE, then press SELECT to continue to the Configure Outputs sub-block.

Configure Outputs Sub-block

This sub-block lets you configure Lynx's five outputs for various output functions. Outputs are found on the PAR2 discrete output connector. To simplify programming, the Lynx must first determine how many 2-speed setpoints will be selected. Depending on the number of 2-speed setpoints, one of several possible sequences will follow.

To configure the outputs:

1. Press ENTER at the **Confg Out** prompt to access the sub-block.
2. At the **# - 2 Speed?** prompt, press ENTER to accept the displayed quantity, or press SELECT to choose the number of 2-speed setpoints (0, 1, or 2). Press ENTER when the desired input is displayed.

   If one 2-speed setpoint is selected, Lynx displays the prompt **Use SP2?** Respond N(o) if the remaining two outputs will not be assigned for single-speed setpoint number 2. Respond Y(es) if they will be assigned to this setpoint.

   Based on these responses, Lynx assigns the outputs as follows:

Quantity 2-Speed Setpoints = 2	
Output #	**Function Assigned**
1	Slow Feed, Setpoint 1
2	Fast Feed, Setpoint 1
3	Tolerance, Setpoint 1 or Zero
4	Slow Feed, Setpoint 2
5	Fast Feed, Setpoint 2

Quantity 2-Speed Setpoints = 1 AND Use Setpoint 2 = Y	
Output #	**Function Assigned**
1	Slow Feed, Setpoint 1
2	Fast Feed, Setpoint 1
3	Tolerance, Setpoint 1, or Zero
4	Feed, Setpoint 2
5	Weight Tolerance, Setpoint 2

Quantity 2-Speed Setpoints = 1 AND Use Setpoint 2 = N	
Output #	**Function Assigned**
1	Slow Feed, Setpoint 1
2	Fast Feed, Setpoint 1
3	Tolerance, Setpoint 1, or Zero
4	Assignable to Status
5	Assignable to Status

Quantity 2-Speed Setpoints = 0	
Output #	**Function Assigned**
1	Single Speed Setpoint or Assignable to Status
2	Single Speed Setpoint or Assignable to Status
3	Single Speed Setpoint or Assignable to Status
4	Single Speed Setpoint or Assignable to Status
5	Single Speed Setpoint or Assignable to Status

3. At the **Output? x** prompt, program any remaining outputs that were not automatically assigned. Press SELECT to choose the output to configure, then press ENTER. Press SELECT again to assign a function. Options include:

   - Setpoint (single-speed)
   - Net
   - Center of Zero
   - Motion
   - Under Zero
   - Over Capacity

4. Press ENTER to return to the **Output? n** prompt. From here you can configure another output that was not automatically assigned. Repeat steps 3 and 4 for all remaining outputs that were not automatically assigned.
5. Press ESCAPE when finished to exit this mode and continue to the next output. You may need to press ESCAPE several times to exit the program block.

Configure Literals Sub-block

Literals are text strings such as site name or address that can be printed in a template. They can be up to 40 characters in length and are referenced by a field code (see the section entitled Configure Template Sub-block in this chapter). You can program up to 20 literals.

To configure literals:

1. Press ENTER at the **Cnfig Literals** prompt to open the sub-block.
2. At the **Literal? 1** prompt, enter a number for the literal you are creating or editing (1-20).
3. At the **L01 (or current literal number)** prompt, enter the text for the literal. You can enter up to 40 alpha-numeric characters. For information on entering alphabet characters, please refer to the section entitled Alphabetical Character Entry in Chapter 4.
4. Repeat steps 2 and 3 for each literal you wish to configure.
5. Press ESCAPE to continue to the next sub-block.

Configure Prompts Sub-block

A prompt list displays a written sequence for an operator to perform a task while in Normal Operation mode. You can include up to 10 steps in a prompt list. The Lynx has three preprogrammed prompts:

- Prompt 1: OPERATOR?
- Prompt 2: PART NO?
- Prompt 3: LOCATION?

1. Press ENTER at the **Prompts** prompt to open the sub-block.

2. Press ENTER at the **# Steps =** prompt. This number tells you how many steps are in the current prompt list.

3. At the **Clr List?** prompt, select Y if you wish to clear the existing prompt list and reset the step number to 0, or select N if you want to edit or add steps in the existing prompt list.

   If Y(es)
   At the **Sure?** prompt, select Y or N to clear or keep the current prompt list.

   If N(o)
   At the **Step 1?** prompt, press SELECT to display the step to be edited. If you are creating a new list, begin with Step 1. Press ENTER to continue.

4. At the **Type?** prompt, select the type of data that will be entered by the operator in response to the prompt. Choices include:

Option	Data Type	Max. Length
A/N	Alpha-numeric	40 characters
Num	Numeric Only	8 numbers
Tare	Tare Weight	N/A
Prnt	Print	N/A

   Numeric data type prohibits the operator from entering anything other than numbers or a decimal point. Tare data type allows a preset (keyboard), or pushbutton tare entry. Print data type initiates a demand output in the prompt sequence.

The Length prompt appears only if the data type is A/N or Num.

5. At the **Length?** prompt, enter the maximum number of characters that the operator will enter in response to the prompt according to the type of data selected above.

6. Press ENTER at the **Prompt?** prompt, then edit or enter the actual text for the operator prompt (up to 20 characters). Press ENTER to accept the text when you have finished keying the string.

7. At the **Clr Data?** prompt, select Y or N to enable or disable the clear previous data feature. If enabled, previous response data (for this prompt line only) is cleared at the next prompt list sequence. If disabled, Lynx retains previously entered response data from this prompt line.

8. At the **More?** prompt, select Y or N if more steps will be entered in the prompt list. If Y(es), the terminal automatically increments to the next step. Repeat steps 4 through 8 for each step in the prompt list.

The loop feature is useful if the same sequence is repeated constantly. Scale weight is not displayed until you exit Loop mode.

9. At the **Loop?** prompt, select Y or N to enable or disable the prompt list loop feature. If enabled, loop causes the Lynx to remain in the prompt list mode (in normal operating mode) until the operator presses ESCAPE.

10. Continue to the next sub-block or press ESCAPE to exit setup mode.

Configure Consecutive Numbering Sub-block

Consecutive numbering is used for sequencing purposes. The Lynx automatically increments the number from a defined starting point. Consecutive numbers can be up to eight digits.

To configure consecutive numbering:

1. Press ENTER at the **Cons Numbr** prompt to open the sub-block.
2. At the **Ena CN?** prompt, select Y(es) or N(o) to enable consecutive numbering.
3. Press ENTER at the **Start at:** prompt, then enter the first consecutive number to be used (0-99999999) after a reset.
4. At the **Ena Rst?** prompt, select Y or N to enable or disable the consecutive number reset. If enabled, the operator can manually reset the consecutive number from Lynx's keypad.
5. At the **Ena Pre?** prompt, select Y or N to enable or disable the consecutive number preset feature. If enabled, the operator can manually enter from the Lynx's keypad a number to be used as the starting consecutive number.

The coarse tuning adjustment increment is approximately ± 0.01.

6. Press ENTER to continue to the next sub-block or press ESCAPE to exit the Configure Memory program block.

Analog Output Sub-block

The Analog Output option kit provides a 4 to 20 mA, 0 to 5 VDC, or 0 to 10 VDC analog signal for gross weight or displayed weight. The Analog Output sub-block lets you select the data source and calibrate analog zero and full-scale values. The Lynx must be calibrated before making any Analog Output adjustments.

To configure the Analog Output option:

1. Press ENTER at the **Analog** prompt to access the sub-block.
2. Press ENTER at the **Source** prompt, then select gross weight display or displayed weight output as the data source for analog output.
3. Press ENTER at the **Zero Preset** prompt, then enter a weight value for the analog output to use as the analog zero value. You must enter a numeric value for zero preset.

   The default value for Zero Preset is appropriate only for the default scale build from the factory. You must enter an appropriate value based on your scale build.
4. Press ENTER at the **Span Preset** prompt, then enter a weight value for the analog output to use as the full scale value. The default value Span Preset is appropriate only for the default scale build from the factory. You must enter an appropriate value based on your scale build.
5. Press ENTER at the **Zero Trim** prompt, then at the **Coarse** prompt, press the MEMORY key to increase the output, or press the FUNCTION key to decrease the output. Press ENTER when the desired adjustment is displayed.

6. At the **Fine** prompt, press the MEMORY key to increase the output, or press the FUNCTION key to decrease the output. Press ENTER when the desired adjustment is displayed.
7. Press ENTER at the **Span Trim** prompt, then at the **Coarse** prompt, press the MEMORY key to increase the output, or press the FUNCTION key to decrease the output. Press ENTER when the desired adjustment is displayed.
8. At the **Fine** prompt, press the MEMORY key to increase the output, or press the FUNCTION key to decrease the output. Press ENTER when the desired adjustment is displayed.

BCD Output Sub-block

The BCD Output option kit provides up to six decades of TTL data. This sub-block lets you select the source data for BCD Output. To configure the sub-block:

1. Press ENTER at the **BCD** prompt.
2. Press ENTER at the **Source** prompt, then select gross weight output or displayed weight output.

Accumulate Sub-block

The Accumulate sub-block lets you configure the Total and Sub-total accumulator. This feature allows accumulation of multiple weighings in a register. The accumulated weight can be selected as net weight (if tare has been entered), gross weight, or displayed weight (gross or net). Accumulation occurs when Lynx receives and performs a print request. Accumulation can also be used with dynamic weighing.

To configure the sub-block:

The fine tuning adjustment increment is approximately ± 0.01.

The target weight must be on the scale before making Span Trim adjustments.

1. Press ENTER at the **Accumulate** prompt, then press ENTER again at the **Accum Mode** prompt.
2. Select the type of accumulation. Options include:
   - None
   - Net weight
   - Gross weight
   - Displayed weight
3. Press ENTER at the **Total** prompt to configure the accumulator auto clear total feature. At the **AutoClr?** prompt select Y or N to enable or disable auto clear the total and subtotal values (if enabled) after printing.
4. Press ENTER at the **Subtotal** prompt to configure the subtotal accumulator. At the **Ena Sub?** prompt, select Y or N to enable or disable the subtotal accumulator.

If enabled, press SELECT at the **Auto Clr?** prompt to enable or disable the subtotal accumulator auto clear after print. Y(es) will cause the accumulator to clear after printing the accumulated totals.

5. At the **Conv Wt?** prompt select Y or N to enable or disable weight conversion if secondary units are used. If enabled, Lynx converts the displayed secondary weight unit to the primary weight unit for accumulation. If disabled, secondary weight units are ignored and are not accumulated.

Lynx uses the primary weight unit (calibration unit) for accumulation.

6. Press ENTER at the **Report Fmt** prompt, then select the fields to include in the printed accumulation report. You must respond Y or N to each report field option. You can include:

   - Literals 9 and/or 10
   - Time
   - Date
   - Last consecutive number
   - Subtotal

   Please refer to Appendix 1 for a sample accumulation totals report.

ID/Tare Sub-block

The ID Tare sub-block lets you configure the stored weight features, configure the print and prompt sequence, and configure the report format. The Permanent ID/Tare entry and recall feature is useful when a tare weight will be used repeatedly (such as the same box used many times on the same scale). Temporary ID/Tare is useful when a tare weight will be used once for a single transaction.

1. Press ENTER at the **ID/Tare** prompt to access this sub-block.
2. At the **Ena ID/T?** prompt, select Y or N to enable or disable permanent and temporary tare recall.
3. If enabled, press ENTER at the **Edit Tare** prompt, then select the tare register to configure. Options include:

   - Permanent
   - Temporary

   If Permanent

   - At the **ManEntry?** prompt, select Y or N to enable or disable manual tare entry. When enabled, the operator can enter a permanent tare value without the load to be tared on the scale. If disabled, the load to be tared must be on the scale to enter a permanent tare.
   - At the **Auto Clr?** prompt, select Y or N to enable or disable automatic clearing of a permanent record. If enabled, the Lynx will automatically clear the permanent record after a predetermined number of transactions has occurred.

The Trigger feature can be used for applications when it is necessary to update permanent tare information due to fuel loss, dirt build-up, etc.

- At the **Trigger?** prompt, select Y or N to enable or disable the prompt for the number of transactions required before clearing a permanent tare. If enabled, this forces the operator to reenter permanent tare values after a specific number of transactions.

  If Trigger is enabled, press ENTER at the **Transact** prompt. Then at the **# Trans** prompt, enter the number of transactions to take place before a permanent tare is cleared and the operator must reenter permanently stored tare values.

If Temporary

- At the **Auto ID?** prompt, select Y or N to enable or disable the Auto ID feature. If enabled, the Lynx automatically assigns a temporary tare ID number.

3. Press ENTER at the **Sequence** prompt, then configure the auto print capability.

   - At the auto print **Inbound?** prompt, select Y or N to enable or disable auto print after the ID is entered and weight is put on the scale for an inbound transaction.

   - At the auto print **Outbound?** prompt, select Y or N to enable or disable auto print after the ID is entered and weight is put on the scale for an outbound transaction.

   - Press ENTER at the **Prmpt Desc** prompt, then determine when the description prompt occurs. This allows you to enter a transaction description that will be used during the store/recall sequence. Options include:

     - In only
     - Out only
     - In and out
     - None

   - Press ENTER at the **PromptList** prompt, then select the appropriate transaction type. This allows you to automatically use the predefined prompt list during transactions. Options include:

     - In only
     - Out only
     - In and out
     - None

- Press ENTER at the **Report Fmt** prompt, then select Y or N to define the fields to include in the printed report. Field options include:
  - Quick ID
  - Record ID
  - Description—respond No if using a 40 column printer
  - Tare
  - Accum
  - Transactions

4. Continue to the next sub-block or exit setup mode.

Password Sub-block

This sub-block lets you create and enable a password that can be used to protect:

- Accumulator totals
- Accumulator sub-totals
- Permanent ID tare records
- All ID tare records (including temporary)
- Single ID tare records (as desired in normal operating mode)
- Open ID tare records (temporary)
- Permanent tare totals and counts

To configure the Password sub-block:

1. Press ENTER at the **Password** prompt, then press ENTER again at the **Password?** prompt. The display becomes blank to accommodate password entry.
2. Use the numeric keys to enter a password. The password can be up to eight alpha-numeric characters.
3. At the **Prot Tot?** prompt, select Y or N to protect or unprotect accumulator totals.
4. At the **Prot ST?** prompt, select Y or N to protect or unprotect accumulator sub-totals.
5. At the **Prot Tr?** prompt, select Y or N to protect or permanent ID tare records.
6. At the **Prot IDn?** prompt, select Y or N to protect or unprotect all ID tare records.
7. At the **Prot ID1?** prompt, select Y or N to protect or unprotect single ID tare records.
8. At the **Prot ID_?** prompt, select Y or N to protect or unprotect open ID tare records.
9. At the **Tare Tot?** prompt, select Y or N to protect or unprotect tare totals and counts.

For more information on entering alpha-numeric characters, please refer to the section entitled Alphabetical and Special Character Entry in Chapter 4 of the Service Manual.

Dynamic Sub-block

The Dynamic sub-block allows accurate weighing and recording of loads that are not stable such as livestock. Dynamic weighing mode averages readings for a predetermined time interval, then displays and prints the average. Dynamic weighing can also be used with the accumulation feature.

The update rate for an analog load cell system is 20 updates per second. The rate for DigiTOL scales is between 5 and 7 updates per second.

1. Press ENTER at the **Dynamic** prompt to access the sub-block.
2. At the **Ena Dyn?** prompt, select Y or N to enable or disable dynamic weighing.

   If Enabled

   - Press ENTER at the **Time Intrv** prompt, then at the **Time?** prompt enter the number of seconds to pass before the Lynx displays scale weight. This is the sampling period. Values from one to 10 seconds are valid.
   - At the **Auto Prt?** prompt, select Y or N to enable or disable the auto print feature. If enabled, the Lynx prints the dynamic weight at the end of the cycle. If disabled, dynamic weight is displayed only.

   If auto print is disabled, the operator can still print the dynamic weight manually when the weight is displayed.
3. Continue to the next program block or exit setup mode.

1Memory Test Sub-block

The Memory Test sub-block tests the terminal's internal memory. These diagnostics test the Flash memory, RAM, and EEPROM on the Controller board. The results of the memory tests are displayed on the terminal.

To execute the memory tests:

1. Press Enter at the **Memory** prompt.

   The Lynx automatically tests memory on the Controller board. The terminal displays the Controller PCB software revision and part number, then tests ROM, RAM, and EEPROM. As the tests are complete, the terminal displays the results.
2. Continue to the next sub-block or exit the setup mode.

Display Test Sub-block

This sub-block tests the terminal's display and tests display ROM and RAM.

1. Press Enter at the **Display** prompt to begin the display test. The Lynx tests the display by lighting each segment for visual inspection. The terminal then displays the Display PCB software revision and part number and tests display ROM and RAM. Test results are displayed when finished.
2. When the test is finished, continue to the next sub-block or exit the setup mode.

Keyboard Test Sub-block

The keyboard test verifies the operation of each key on the Lynx keypad.

1. Press ENTER at the **Keyboard** prompt to initiate the test. Lynx displays the message **Exit w/ ESC** indicating that you can press ESCAPE to exit the keyboard test.
2. Press each key on the Lynx keypad. If the depressed key works, the key name is displayed. If the depressed key does not work, the terminal does not respond.

   For example, to test the MEMORY key, press MEMORY on the keypad. If it works properly, the display reads **Memory**. If the MEMORY key is inoperative, the display remains unchanged.
3. Repeat step 2 to test as many keys as you like.
4. When finished, exit the keyboard test by pressing ESCAPE.

Scale Test Sub-block

This sub-block tests the stability of the scale with regard to the environment and calibration. Scale weight is displayed at a finer resolution than the calibrated increment resolution.

1. Press ENTER at the **Scale** prompt, then press ENTER at the **Expand Wt** prompt.
2. At the **x10 Cnts?** prompt, select Y or N to show scale resolution ten times higher than normal while performing the scale test. This higher resolution indicates the accuracy of the weight display and if calibration is needed. This procedure also tests for environmental factors affecting the accuracy.

   If you select Y(es), continue to the next sub-block. If you select N(o), continue to Step 3 below. Press ESCAPE to exit the x10 mode.
3. Press ENTER at the **Cal Values** prompt to view or enter calibration values for the Lynx. the calibration values of one scale can be applied to a new Controller PCB by manually entering the values.

If the scale type is DigiTOL J-Box and linearity correction is enabled, Mid Weight and Mid Counts are displayed. Press ENTER to accept the values.

- Press ENTER at the **Zero Cnts** prompt to display the current calibration counts at zero. If desired, enter a zero count value.

If Linearity Correction is Enabled:

- Press ENTER at the **Mid Weight** prompt to display the last test weight used for mid weight calibration. Enter a new value if desired.
- Press ENTER at the **Mid Count** prompt to display the current calibration counts at mid weight. Enter a new value if desired.
- Press ENTER at the **Hi Weight** prompt to display the last test weight used for high weight calibration. Enter a new high scale weight value if desired.
- Press ENTER at the **Hi Counts** prompt to display the current calibration counts at high weight. Enter a new value if desired.

If DigiTOL J-Box is Selected:

- Press ENTER at the **Shift Cons** prompt to display the shift constants for the DigiTOL junction box. Enter a new shift constant value for each load cell (1 through 4) if desired.

4. Press ENTER at the **LC Counts** prompt (DigiTOL scales only) to display the raw counts value for each cell (C1 - C4).
5. Press ENTER at **Reset Shft** prompt to return the shift adjustment factors for a DigiTOL J-Box to 1.0. This prompt only appears if the scale selected is DigiTOL J-Box.

   At the **Sure?** prompt, select Y or N to confirm or abort the reset operation.
6. Continue to the next sub-block or exit the setup mode.

Serial I/O Test Sub-block

The Serial Test sub-block tests the serial I/O ports. You can transmit a test string of data out from a designated port, or you can receive a string of input data. The input data scrolls across the display as received. You may see special characters representing control characters in the test string. This serial test is useful in installation and terminal and hardware diagnostics.

1. Press ENTER at the **Serial I/O** prompt to test serial ports.
2. At the **Test?** prompt, press SELECT to choose the serial port you wish to test (COM1, COM2, or COM3).

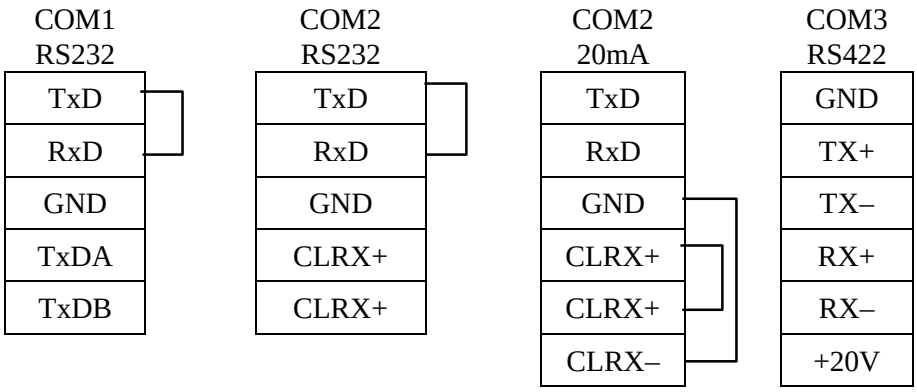
   The display reads Test COMx: until a serial input is received. When input is received, the characters are displayed. The Lynx is constantly outputting the string COMx NN <CR> <LF> where x is the COM port number and NN is a transmission number beginning at 00 and counting through 99.

<CR> is an ASCII carriage return code.
<LF> is an ASCII line feed code.

   The serial test cannot test COM3 if it is associated with a DigiTOL scale. In this case, change the DigiTOL scale type to Analog or None through the Scale Interface program block before performing a serial test.

   If a jumper wire is placed between the transmit and receive terminals on the serial port being tested, you can test both the input and output of a port and view the string of data being transmitted on the display.

   The following diagram shows how to connect the output to the input for the serial ports and all types of communication. Testing COM1 using RS485 is not possible.



3. Press ESCAPE to exit the serial test when you are finished.
4. Repeat steps 2 and 3 to test additional COM ports.
5. Continue to the next sub-block or exit the setup mode.

Discrete I/O Test Sub-block

The Discrete I/O Test sub-block tests the discrete I/O ports. The test can "turn on" each output and monitors inputs. The discrete I/O test is useful in installation and terminal and hardware diagnostics. See Appendix 3 for more information on discrete I/O ports.

1. Press ENTER at the **Discrt I/O** prompt to access the sub-block.
2. At the **Test?** prompt, select the desired port to test. You can press ENTER to test the inputs for PAR1, or the outputs at PAR2.

WARNING

This test allows you to turn the outputs ON and OFF from the Lynx Terminal keyboard. It is totally unrelated to the weight. If electrical equipment is connected to the output of the Lynx during this test, it may start automatically. Make sure that all appropriate precautions have been taken to prevent personal injury during this test. Mettler Toledo suggests unplugging the Discrete I/O connector from the rear of the Lynx and using LED's or a volt meter to verify correct operation of these outputs.

Discrete Input

The display will read P1 = FFF indicating that the three discrete inputs are all false or "OFF". When one of the inputs is held to logic ground for 100 ms or longer, the "F" will change to a "T" to indicate a true or "ON" condition.

- When done, press ESCAPE to exit the test routine for the discrete inputs.

After testing, remember to change the scale type back to DigiTOL and verify that calibration is correct by applying weight to the scale.

Discrete Output

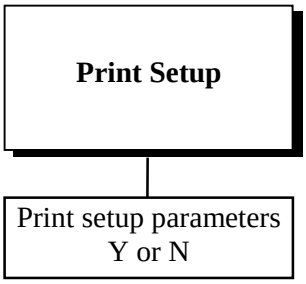
The display will read P2 = 00000] indicating that the five discrete outputs are all logic 0 or "OFF". The first digit will be blinking indicating that output 1 is the active output.

- To turn this output on, press the number "1" key. Pressing "0" returns this output to the "OFF" condition. To move to the next output (output 2), press SELECT. The second digit now blinks. Each of the five outputs can be turned "ON" or "OFF" using this method.
- When done, press ESCAPE to exit the test routine for the discrete outputs.

3. Press ESCAPE to exit the parallel I/O test and continue to the next sub-block, or exit the setup mode.

Print Setup Sub-block

You must have a Demand port configured to print setup.



The **Comx?** prompt appears only if multiple demand connections exist.

The Print Setup sub-block prints the terminal setup information as it is defined in the program blocks. It may be useful to have a hard-copy of each terminal's setup parameters as back-up.

Print setup data will be sent out the port that has been selected for demand output.

1. Press ENTER at the **Setup** prompt. If multiple serial ports have been programmed, the Lynx prompts where to send the test data.
2. At the Use **Comx?** prompt, select one port to receive test data. Only one port can be configured as Y(es).
3. At the **Print?** prompt, select Y at the **Print?** prompt to print the setup parameters as defined in the program blocks. If you do not want to print the setup, press ENTER to select N.

   Setup data is printed in a 40 column format that is compatible with the Mettler Toledo 8856 Strip Printer. A standard 80 column printer, such as the Mettler Toledo model 8845, will also work. Label printers are not acceptable devices for printing this information because there are many lines of data.
4. Continue to the next sub-block or exit the setup mode.

Reset to Factory Sub-block

The Reset to Factory sub-block allows you to perform a master reset which returns all of the parameters for all program blocks to their original settings.

To perform a master reset:

1. Press ENTER at the **Factry Rst** prompt.
2. Select Y at the **Sure?** prompt to confirm your intention to reset, or select N to exit without resetting all parameters.

   If Y(es)

   - At the **Rst Cal?** prompt, select the default N to reset all parameters **except** calibration. Select Y to reset all parameters **including** the scale calibration parameters.

     If you choose to reset the calibration values, the current scale capacity, increment size, and span and zero values will all be lost and scale recalibration will be required.

     The Lynx displays the message **Resetting** and all parameters (except print templates) are returned to factory settings.

After resetting, the Lynx will perform its normal power-up sequence.

Error Codes

The following table lists the Lynx's error messages with possible cause, and remedy.

Error Message	Description	Possible Cause	Remedy
"Shift Abort"	The Lynx is unable to complete the shift adjustment	Incorrect programming or wiring Defective cell or J-box Broken wire in cable	Verify wiring and programming and press clear and try again Replace defective part(s)
"CAL Abort"	The Lynx is unable to complete calibration	Incorrect wiring, broken wire, defective cell or J-box PCB. Incorrect build Bad Controller PCB	Calibrate on simulator. If problem persists, replace Controller PCB. Check build and wiring
"Zero Abort"	The Lynx is unable to complete Zero Adj	Incorrect wiring, broken wire, defective cell or J-box PCB. Incorrect build, outside capture parameters, bad Lynx Controller PCB	Check build and wiring Calibrate on simulator. If problem persists, replace Controller PCB
"Span Abort"	The Lynx is unable to complete Span Adj	Incorrect wiring, broken wire, defective cell or J-box. Incorrect build, outside capture parameters, load not applied to scale. Bad Lynx Controller PCB	Check build and wiring Calibrate on simulator. If problem persists, replace Controller PCB
"COMM ERROR"	Communication port is experiencing a problem	Parameters selected in communicating unit do not match. Controller PCB defective	Perform diagnostics tests. Test port for proper communication. Replace Controller PCB
"EEPROM BAD"	Internal error, EEPROM corrupted	Static, inductive noise, or poor power damaged memory. Possible bad Controller PCB	Reset to factory defaults Replace Controller PCB
"BRAM BAD"	Memory has been corrupted	New software has been loaded. Possible static or power problems. Low battery. Bad Controller PCB	Reset to factory defaults Check battery. Replace Controller PCB
"RAM BAD"	Memory has been corrupted	Possible static or power problems. Low battery. Bad Controller PCB	Reset to factory defaults Check battery. Replace Controller PCB
"ILLEGAL SCALE TYPE"	Program error	Service required	Power down and back up. If error persists, fax printed setup

Error Message	Description	Possible Cause	Remedy
			parameters to Technical Support at 1-800-786-0040. Replace the Controller PCB
"ILLEGAL SCALE MODE"	Program error	Service required	Power down and back up. If error persists, fax printed setup parameters to Technical Support at 1-800-786-0040. Replace the Controller PCB
"MEM ALLOC ERROR"	Program error	Service required	Power down and back up. If error persists, fax printed setup parameters to Technical Support at 1-800-786-0040. Replace the Controller PCB
"JAGMSG ALLOC ERROR"	Program error	Service required	Power down and back up. If error persists, fax printed setup parameters to Technical Support at 1-800-786-0040. Replace the Controller PCB
"ILLEGAL LOAD CELLS"	Lynx is unable to accept calibration	Number of load cells is outside the legal limit	Correct the number of load cells programmed or check programming
"NO CONN"	No "demand" printer connection has been made	No "demand" printer connection has been made	Select COM port and configure connection
"TplCorrupt"	Template has been corrupted	A field has been stored incorrectly	Clear and reenter template. Reset to factory defaults. Replace Controller PCB
"TPL FULL!"	Template is full	Template has exceeded the maximum 800 format characters	Delete unnecessary characters or fields
"BAD ENTRY!"	Occurs during the editing of a template	Incorrect field code has been entered	Re-enter field
"OVER RANGE"	Scale is above capacity	Too much weight on scale. bad wiring. Defective load cell. Problem with scale base	Check scale, install load cell simulator on Lynx
"UNDER ZERO"	Scale is below zero	Not enough weight on scale, bad wiring. Defective load cell. Problem with scale base	Check scale, install load cell simulator on Lynx