BY ACTRONIC – A TRIMBLE COMPANY

LOADRITE™ L2180 User Manual

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A solution from

ACTRONIC TECHNOLOGIES™

A TRIMBLE COMPANY

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IMPORTANT SAFETY INFORMATION

PLEASE READ CAREFULLY BEFORE USING THE LOADRITE™ WEIGHING SYSTEM

⚠	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
⚠WARNING	WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠CAUTION	CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
CAUTION	CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

⚠WARNING

It is your sole responsibility to place, secure and use the LOADRITE™ Weighing System in a manner that will not cause accidents, personal injury or property damage. Always observe safe operating practices.

Do not install the LOADRITE™ Weighing System in a way that may interfere with the safe operation of the vehicle, or deployment of safety equipment.

Before you use the LOADRITE™ Weighing System for the first time, familiarize yourself with the system and its operation.

⚠CAUTION

Do not handle the LOADRITE™ Weighing System if it is hot. Let the product cool, out of direct sunlight.

Ensure that the LOADRITE™ Weighing System is connected to a power source with the correct fitting and voltage requirements.

Do not attempt to service the LOADRITE™ Weighing System as this could result in personal injury.

CAUTION

Removing LOADRITE™ Weighing System equipment or adding accessories could affect the accuracy of weighing data and your warranty.

Do not install cables over horizontal surfaces where they may be stood on or hit by falling objects.

Failure to adhere to these warnings and cautions may lead to death, serious injury or property damage. Actronic Ltd disclaims all liability for installation or use of the LOADRITE™ Weighing System that causes or contributes to death, injury or property damage, or that violates any law.

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1. WELCOME

Thank-you for purchasing this LOADRITE™ Weighing System. Please read this manual carefully before using the Indicator for the first time. Keep this manual in a safe place and use as your first point of reference.

Formatting

The following formatting in this manual identifies specific types of information:

Convention	Type of Information
Bold	Indicates a button on the Indicator, or Indicates an area displayed on-screen, including buttons, headings, field names and options.
Italics	Indicates the name of a screen or window, or Indicates an operation mode that the Indicator can be set to.
`Monospace`	The exact error message displayed on-screen.

Action Terms

The following terms are used throughout this manual to describe actions:

Term	Description
Press	Push and release a button quickly.
Press and hold	Push and hold a button for 2-3 seconds.
Select	▸ Use the arrow buttons to "highlight" an item in a menu or list, or ▸ When searching for a product or Data Field value, use the keypad to enter the name of the product. The product which matches the name entered will be "highlighted".

2. INTRODUCTION

The LOADRITE™ weighing system measures the weight of loads lifted by wheel loaders, forklift trucks and similar machines that use hydraulic rams to lift the load. The main parts of the LOADRITE™ Weighing System are:

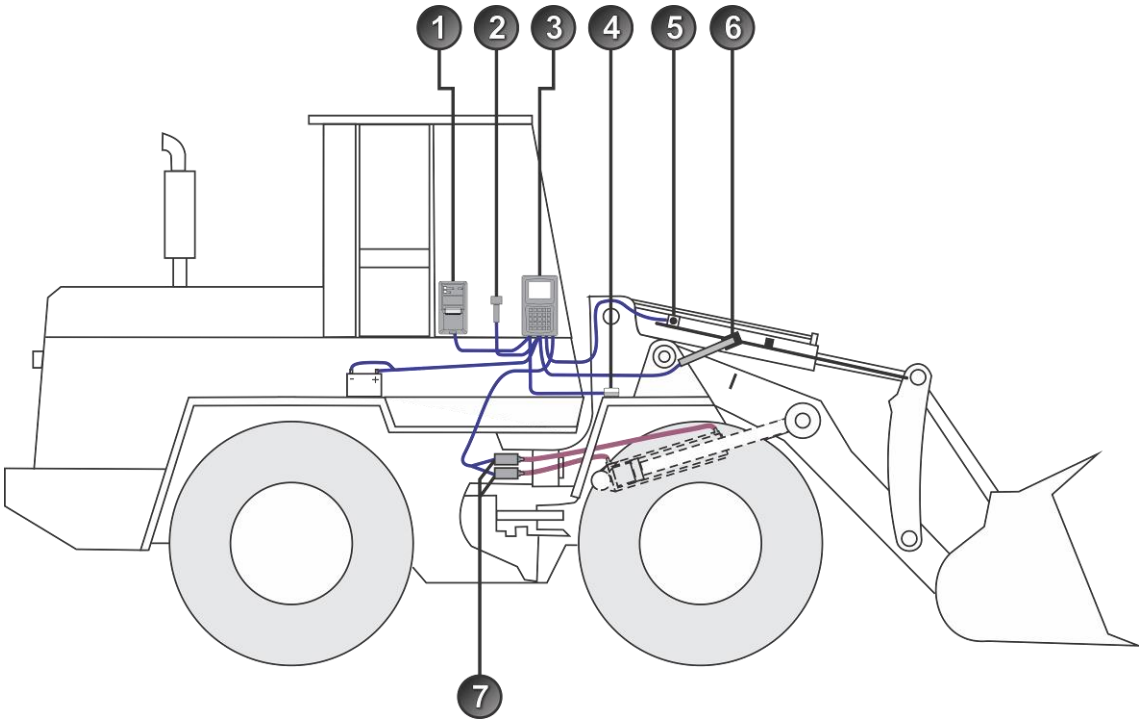
- the Indicator installed in the cab of the loader, and
- the connected sensors installed on the lifting arms.

As a load is lifted, the trigger and hydraulic pressure transducers send information to the LOADRITE™ Indicator. This information is converted into a digital weight reading that is displayed on the LOADRITE™ Indicator.

The LOADRITE™ Weighing System can add each lifted load to running totals so that Trucks are loaded accurately and daily productivity levels can be tracked.

The LOADRITE™ Indicator is the main user interface with the LOADRITE™ Weighing System. It has an internal memory that stores settings and production data even when it is turned off.

2.1 LOADRITE™ EQUIPPED LOADER



Item	Description
1	Printer (optional)
2	Remote Add Button (optional)
3	LOADRITE™ Indicator
4	Ground Slope Sensor (optional)
5	Interlock Switch (optional; required for Legal for Trade application)
6	Trigger
7	Pressure Transducer

2.2 INDICATOR FEATURES

Icon	Name	Description
	Trigger Light	Illuminates when a load is lifted past the Trigger Point. When this light is on, the load may be added.
	Data Menu	Displays the *Data Menu*.
	Target	Activates *Target* mode weighing.
	Split	Activates *Split* mode weighing.
	Tip-Off **Decimal Point**	Activates Tip-off weighing. Used to enter a decimal point.
	Setup Menu **Standby Mode**	▸ Accesses the *Setup Menu*. ▸ Press and hold for five seconds to enter *Standby* mode.
	Up	Moves up a list of options.
	Down	Moves down a list of options.
	Enter	▸ Selects an item. ▸ Accepts changes.
1	**One**	Used to enter the number **1**.
ABC 2	**Two**	Used to enter the number **2**.
DEF 3	**Three**	Used to enter the number **3**.
GHI 4	**Four**	Used to enter the number **4**.
JKL 5	**Five**	Used to enter the number **5**.
MNO 6	**Six**	Used to enter the number **6**.
PQRS 7	**Seven**	Used to enter the number **7**.
TUV 8	**Eight**	Used to enter the number **8**.
WXYZ 9	**Nine**	Used to enter the number **9**.
	Recall **Subtract** **Back**	▸ Recalls the last load. ▸ Subtracts the current load from the total. ▸ Moves back one menu screen.

Icon	Name	Description
0	**Zero**	Used to enter the number **0**.
+	**Add**	▸ Adds the current bucket load to the total. ▸ Turn *Auto-Add* on or off.
C	**Clear**	Clears the short total for the current product.
▸0◂	**Zero Bucket**	Zeroes the empty bucket.

2.3 ACCURATE WEIGHING

For maximum accuracy, ensure that:

- Check Zero is performed regularly.
- Load lifting motion is steady and smooth, with no acceleration or bounce.
- The bucket is fully rolled back during the lift.
- The loader is on level ground.

Tip: If the Ground Slope Compensation sensor is installed, the loader does not have to be level when lifting.

2.3.1 Obtaining the Best Weighing Results

Lifting speed

For best results, operate the lift lever before accelerating the engine so that the machine does not rock as it lifts, i.e. use normal revs.

Trigger Point

Start the lift well below the Trigger Point. This ensures that all acceleration and load bounce has been eliminated well before the weighing sequence begins.

Note: We recommend that there are at least two seconds of lift before the Trigger Point.

Bounce

Most loaders have pneumatic tires which can cause the machine to bounce when lifting.

To minimize the effect of bounce, always operate the lift lever before accelerating the engine and start the lift well below the Trigger Point.

Center of gravity

The hydraulic pressure in the lifting cylinders depends on where the center of gravity of the load is. It is important that the bucket is always in the same position: fully rolled back.

2.3.2 Legal for Trade Systems

LOADRITE™ systems meet Legal for Trade requirements in certain countries. This enables material to be weighed and sold directly from the loader.

For more information or to enquire if Legal for Trade is available in your country, contact your LOADRITE™ distributor.

Tip: Operating requirements for Legal for Trade systems are detailed in this *User Manual* where they differ from standard operating requirements.

3. THE DAY-TO-DAY WEIGHING PROCESS

The following is the basic process for day-to-day weighing with the LOADRITE™ Weighing System:

1) Turn on the Indicator and log in (if required).
2) Perform a warm-up.
3) Zero the empty bucket.
4) Select a product to weigh.
5) Weigh and add each bucketload.
6) When you have finished loading the truck, clear the short total.
7) When you have finished using the LOADRITE™ Weighing System, put the Indicator into *Standby* mode.

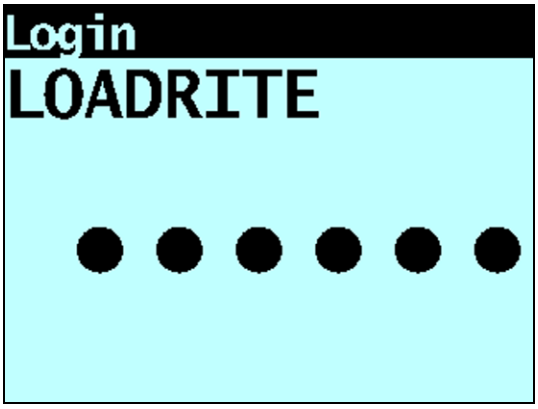
3.1 HOW DO I TURN ON THE INDICATOR?

The LOADRITE™ Indicator will turn on automatically when you start the loader.

3.2 HOW DO I LOG IN?

The *Login* functionality is only available if selected at installation.

The *Login* screen will display when the Indicator turns on, or comes out of *Standby* mode.



If you see the *Login* screen, complete the following to log in to the Indicator:

1) Press ⇧ or ⇩ to scroll up or down through the login names, or use the keypad to enter your login name.
2) When your login name is displayed, press ↵.
3) Use the keypad to enter your PIN number, then press ↵.

3.3 HOW DO I PERFORM A WARM-UP?

For best weighing accuracy, the hydraulic fluid in the lift cylinders should be at normal operating temperature. This is achieved by raising and lowering the empty bucket.

The above message will display if the Indicator has been turned off for more than one hour. If you see the above message, you need to raise and then lower the empty bucket past the Trigger Point three times:

1) Raise the bucket past the Trigger Point.
2) Lower the bucket past the Trigger Point.
3) Repeat two more times until the message disappears.
   When the warm-up has completed, the *Live Weight* screen will display.

3.4 HOW DO I ZERO THE EMPTY BUCKET?

The *Check Zero* functionality is only available if selected at installation.

It is necessary to periodically "zero" the Indicator because small errors can occur due to a build-up of material in the bucket. The Friction and Ambient Compensation Technology (FACT) functionality is also updated as part of the zeroing process.

If you see the above message, you need to zero the empty bucket. The message will display:

- Every 15 minutes for the first hour, and
- Every 30 minutes thereafter (the default period is 30 minutes, but it may be set between 15-180 minutes).

Complete the following to zero the bucket:

IMPORTANT: When weighing a load, the loader must be level, and the bucket must be empty and kept fully-rolled back.

1) Ensure that the loader is level and the bucket is empty.
2) Raise the empty bucket.
3) Press ▸0◂.
   The lifting speed will display.

   Note: If during installation the FACT update was set to be skipped, press ▸0◂ again to continue. The update may only be skipped a set number of times before an update must be completed.

4) When the **Lower Arms** message is displayed, lower the empty bucket. The lowering speed will display.

   Note: The same speed must be maintained for lifting and lowering. If the difference between speeds is too large, the Indicator will prompt you to try again.

   The **Zero Updated** message will display, before the *Total* screen is displayed.

3.5 HOW DO I SELECT A PRODUCT TO WEIGH?

1) Ensure the *Total* screen is displayed.

2) Press .
The *Data Menu* will display.

3) Select **Product**, then press .
The *Product* screen will display.

4) Press or to scroll up or down the list of products until the correct product is selected.

5) Press .
The name of the product will be displayed for one second, then the *Total* screen will display.

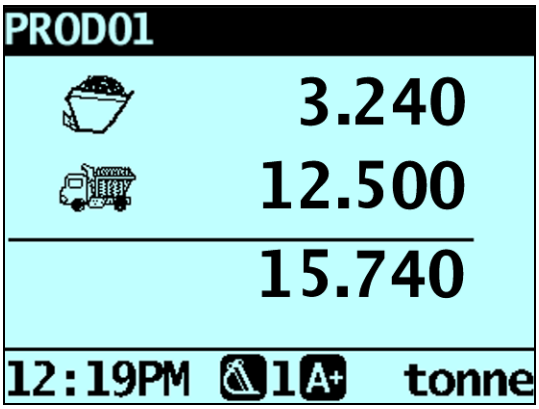
3.6 HOW DO I WEIGH AND ADD A BUCKET LOAD?

When the *Total* screen is displayed, bucketloads can be weighed.

IMPORTANT: When weighing a bucketload, the loader must be level with the bucket kept fully-rolled back.

1) Raise the bucketload smoothly past the Trigger Point using constant engine revs.
The **Weighing** message will display.

2) The Indicator will beep, (**Trigger light**) will illuminate and the *Live Weight* screen will display the weight of the current load, the short total and the potential new weight.



3) Press to add the load.
A message will display the number of buckets added to the current load, for example **Bucket Add #1**.

Note: If is not pressed within 8 (eight) seconds of the load being lifted past the Trigger Point, the Indicator will beep and the **Time Out** message will display. The weight will then be discarded and the *Total* screen will display. The number of seconds before the Indicator times out may differ, depending on how it was set during installation.

When the load has been added, the *Total* screen will display with the new short total and the number of added bucketloads.

3.6.1 Auto-Add

The *Auto-Add* functionality is only available if selected at installation. Some features may not be available, depending on your model of LOADRITE™ Weighing System.

The LOADRITE™ Weighing System can be set to automatically add a bucket load when lifted past the Trigger Point for a specified number of seconds *OR* when the bucket is rotated forward to tip off the load. This means that you don't need to press + after lifting each load.

Depending on installation setup:

- Bucket loads may not be added if under a specified amount
- *Auto-Add* may be turned on or off via the *Setup Menu* or by pressing + (Auto-Add toggle).

3.6.1.1 Turn Auto-Add On or Off

1) Press .
   The *Setup Menu* will display.
2) Press ⇧ or ⇩ to scroll up or down until **Auto-Add** is selected, then press ↵.
3) Complete the following:

If you want to...	Then...
turn *Auto-Add* on	use the arrow buttons to select **On,** then press ↵.
turn *Auto-Add* off	use the arrow buttons to select **Off,** then press ↵.

4) Press ↩ to return to the *Total* screen.

3.6.1.2 Auto-Add toggle

The *Auto-Add toggle* functionality may or may not be available depending the configuration of your Indicator.

You can toggle between using Auto-add and using the normal add process from the *Total* screen.

Turn Auto-Add on

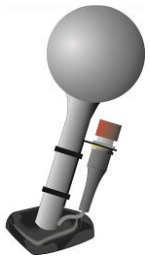
1) From the *Total* screen, press +.
   The **Auto-Add On?** message will display.
2) Press ↵.
   The message will change to **Auto-Add On** and the *Total* screen will display.

Turn Auto-Add off

1) From the *Total* screen, press +.
   The **Auto-Add Off?** message will display.
2) Press ↵.
   The message will change to **Auto-Add Off** and the *Total* screen will display.

3.6.2 Remote Add button

The LOADRITE™ Weighing System has an optional **Remote Add** button which is normally mounted on or near the lift lever. If the **Remote Add** button is installed in your loader you can use it interchangeably with the button on the Indicator.



3.6.3 Subtract a bucket load

This function can be useful when only part of a final load of loose material is required. Weigh and add a full bucketload, but only tip the amount required into the truck. Then re-weigh and subtract the amount remaining by completing the following:

IMPORTANT: When weighing a bucketload, the loader must be level with the bucket kept fully-rolled back.

1) Raise the bucketload smoothly past the Trigger Point.

2) The Indicator will beep, (**Trigger light**) will illuminate and the weight of the current load, the short total and the potential new weight will display.

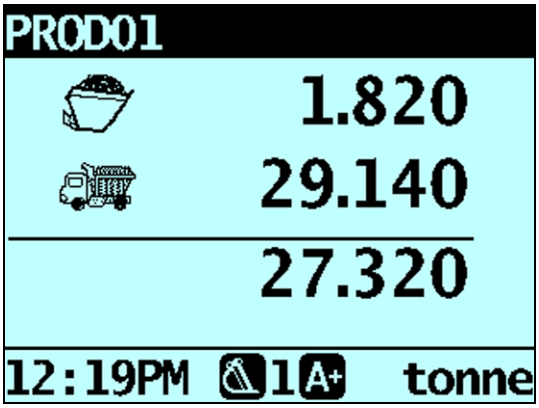
3) Press .
The **Bucket Subtract** message will display. The amount will be subtracted from the short total. The *Total* screen will display.

3.6.4 Recall a bucketload

The *Recall* function is equivalent to lifting the same load again and can be used to correct mistakes. The last bucketload can be recalled if it has been added, subtracted or canceled.

To recall a previously lifted weight, complete the following:

1) Press .
The last valid weight that was lifted will be displayed.



2) Complete the following:

If...	Then...
the last action was an "add"	press . The bucketload is subtracted from the short total and long total.
the last action was a "subtract"	press . The bucketload is added to the short total and long total.

3.7 HOW DO I FINISH THE LOAD?

When you have finished adding bucketloads to the truck, you must clear the short total.

To clear the short total, complete the following:

- Press and hold C.
  The short total will display briefly, followed by the **Total Cleared** message, then the *Total* screen.

For more information on the short total, see "The short and long totals" on page 4-19.

3.8 HOW DO I PUT THE INDICATOR INTO STANDBY MODE?

If you are not going to use the LOADRITE™ Weighing System for a while, you can put the Indicator into *Standby* mode by completing the following:

Option 1

- Press and hold for 5 seconds.
  The Indicator will enter *Standby* mode.

Option 2

1) Press .

2) Press or to scroll up or down until **Standby** is selected, then press .
   The Indicator will enter *Standby* mode.

Option 3

The LOADRITE™ Indicator will automatically go into *Standby* mode if it is not used for two hours.

How do I exit *Standby* mode?

- Press any button to exit *Standby* mode.
  Either the *Login* screen or *Total* screen will display.

4. THE TOTAL SCREEN

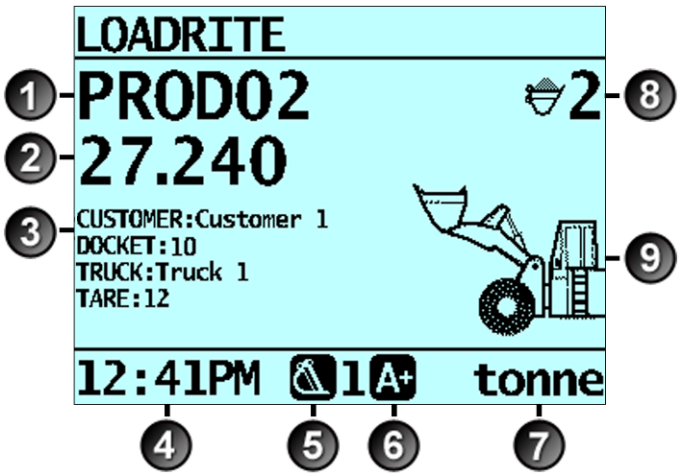
The *Total* screen is the first screen that you will see when you turn on the Indicator or log in. The *Total* screen can be displayed in three layouts:

- Classic layout
- Compact layout
- Scroll layout

To change the layout of the *Total* screen, see "Changing the Total screen layout" on page 12-55.

4.1 CLASSIC LAYOUT

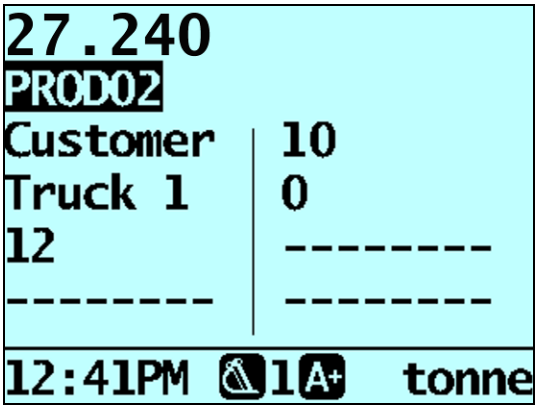
The *Classic* layout of the *Total* screen is the default layout and displays the currently selected Product, short total, number of bucket loads and other information.



	Component	Description
1	**Product**	The product being loaded.
2	**Short total**	The current short total of material that has been loaded.
3	**Data Fields**	The current values of each Customizable Data Field. **Tip:** To display the current values of *all* data fields, use either the *Compact* or *Scroll* layout.
4	**Clock**	The current time.
5	**Weighing implement**	The weighing implement being used by the loader.
6	**Auto-add**	Indicates that the *Auto-add* functionality is **On**.
7	**Unit of weight / Pitch**	▸ The unit of weight being used. The **Short total** is displayed in this unit of weight. ▸ The angel of pitch (front/back tilt) of the loader may be displayed if a Ground Slope sensor is installed.
8	**Bucket loads**	The number of bucketloads that have been added to the short total.
9	**Arm Graphic**	A graphic representing the height of the lifted weight.

4.2 COMPACT LAYOUT

The *Compact* layout of the *Total* screen displays the short total, currently selected product and all eight customizable Data Fields (if selected)



How do I change the product or one of the Data Field values?

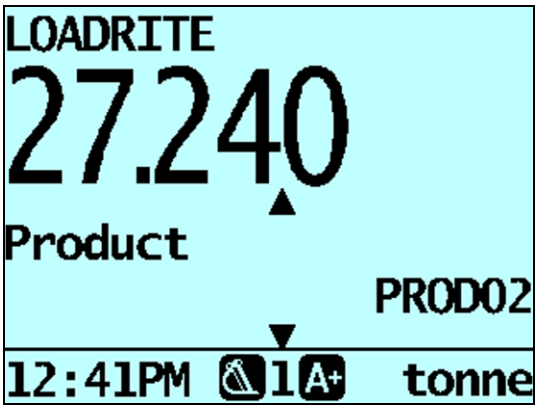
1) Press ⇧ or ⇩ to select the product or Data Field that you want to change, then press ↵.
The *Product* screen or the applicable *Data Field* screen will display.

2) Press ⇧ or ⇩ to select the product or Data Field value that you want to use, then press ↵.
The *Total* screen will display with the new product or Data Field value displayed.

4.3 SCROLL LAYOUT

The *Scroll* layout of the *Total* screen displays the short total in a large easy-to-read font size and one of the eight Data Fields.

- To scroll through the Data Fields, press ⇧ or ⇩.



How do I change the product or one of the Data Field values?

1) Press ⇧ or ⇩ to select the product or Data Field that you want to change, then press ↵.
The *Product* screen or the applicable *Data Field* screen will display.

2) Press ⇧ or ⇩ to select the product or Data Field value that you want to use, then press ↵.
The *Total* screen will display with the new product or Data Field value displayed.

4.4 THE SHORT AND LONG TOTALS

The LOADRITE™ Weighing System keeps a running total of the load weights. For each product, two independent totals are stored - the short total and the long total.

Term	Definition
Short Total	The running total amount of product weighed and loaded onto a truck or carriage. The Short Total amount is displayed on the *Total* screen and will continue to accumulate until it is cleared by pressing C.
Long Total	The total amount of product loaded over a long period, such as a work shift or day.

4.4.1 Clear the short total

The short total keeps accumulating until it is cleared. Clear the short total after a load has been completed, for example, after each truck or carriage load.

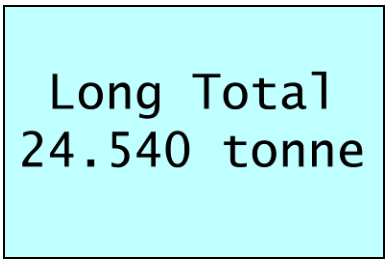
- Press C.
  The short total will display briefly, followed by the **Total Cleared** message, then the *Total* screen.

Note: If the LOADRITE™ Weighing System has a printer connected, then depending on your installation settings, (i) the totals may be printed before being cleared, or (ii) you may be prompted to print the totals after the **Total Cleared** message is displayed.

4.4.2 View and clear the long total

You can view the long total for the current product at any time.

1) Ensure the *Total* screen is displayed, then press .
2) Press ⇧ or ⇩ to scroll up or down until **Long Total** is selected.
3) Press ✓⏎.
   The long total will display, followed by the number of buckets added.



After a few seconds, the Indicator will display the *Total* screen.

Clear the long total for the current products

1) Ensure the *Total* screen is displayed, then press .
2) Press ⇧ or ⇩ to scroll up or down until **Long Total** is selected.
3) Press ✓⏎.
   The long total for the current product is displayed along with the number of buckets added.
4) Press C.
   The **Long Total Clear?** message will display.

5) Press again to clear the long total.
The **Long Total Cleared** message will display. If the LOADRITE™ Weighing System has a printer connected, the total will be printed.

- Press to cancel the clearing of the long total.
  The **Clear Aborted** message will display.

Note: If no button is pressed, the clear command will be automatically canceled.

Clear the long total for all products

1) Ensure the *Total* screen is displayed, then press .

2) Press or to scroll up or down until **Clear All** is selected.

3) Press .
The **All Totals Clear?** message will display.

4) Press again to clear the long total.
The All Totals Cleared message will display. If the LOADRITE™ Weighing System has a printer connected, the total will be printed.

- Press to cancel the clearing of the long total.
  The **Clear Aborted** message will display.

Note: If no button is pressed, the clear command will be automatically canceled.

5. PRODUCT MANAGEMENT

The LOADRITE™ Weighing System can be used to track multiple products (materials). Each product is associated with a product number, product name, Short Total, Long Total and bucket counter.

5.1 CUSTOMIZABLE DATA FIELDS

The *Customizable Data Fields* functionality is only available if selected at installation. For information on configuring data fields, refer to the *LOADRITE™Toolbox User Manual*.

Your Indicator has eight customizable data fields that are used to record information against each weight to help track and monitor weighing data.

For example, data fields may be configured to record a customer, truck type, truck ID or docket number, against the weight data.

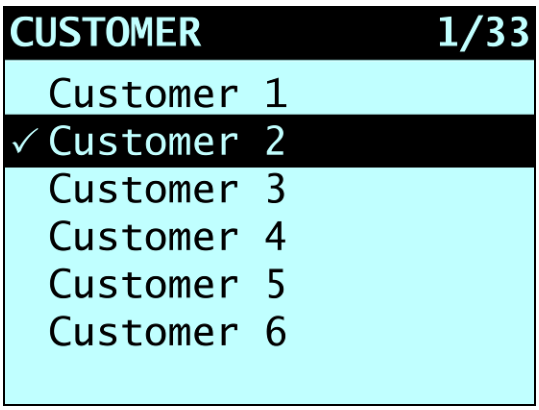
The data can then be transferred via a modem, stored in a LOADRITE™ Data Module and/or printed along with the weight data.

5.1.1 Select a data field

Data field values can be selected before starting a new load. The following example assumes that **Data 1** has been configured to hold customer names and shows how to select a customer name to record against the weighing data.

1) Press .
   The *Data Menu* will display.

2) Select **Customer**, then press .
   The *Customer* screen will display.



3) Press or to scroll up or down the list of customers until the correct customer is selected.

4) Press .
   The customer will be recorded against all loads until a different customer is selected. The name of the customer will display under the **Short Total** on the *Total* screen.

TIP: A *Control* report can be created for the selected data field value by pressing . For more information, see "Print Special Report" on page 10-44.

How do I use the Indicator keypad to enter text?

You can enter numbers, letters or symbols on any screen that has a flashing cursor, for example the *Data Entry* and *Edit?* screens.

The Indicator has a keypad of buttons, with each used to select and enter a range of characters. When a button is pressed, the first character will appear on screen. If you press the button again within one second, the next character will display. If you continue to press the button, each character in the range will display in turn until the first character is displayed again.

One second after a button is pressed, the character will be entered and the cursor will move to the next space. You can then enter another character.

TIP: Predictive text is available on some screens, if it has been enabled during installation. This means that you may only need to enter the first few characters of a word for the whole word to display on screen.

Characters

Button	Characters	Button	Characters
1	[SPACE] 1 . , ? &	MNO 6	6 M N O m n o
ABC 2	2 A B C a b c	PQRS 7	7 P Q R S p q r s
DEF 3	3 D E F d e f	TUV 8	8 T U V t u v
GHI 4	4 G H I g h i	WXYZ 9	9 W X Y Z w x y z
JKL 5	5 J K L j k l	0	[SPACE] 0 # : / + - "

When entering the first character of a value, the first time ABC 2 is pressed, the number **2** will display; the second time ABC 2 is pressed, **A** will display; the third time ABC 2 is pressed, **B** will display, etc.

When entering other characters in the value, lower-case letters will display first, so the first time ABC 2 is pressed, the letter **a** will display; the second time ABC 2 is pressed, **b** will display; the third time ABC 2 is pressed, **c** will display, etc.

Example

To enter the word **Pumice** using the keypad, you would complete the following:

1) To enter **P**, press PQRS 7 twice.

2) To enter **u**, press TUV 8 twice.

3) To enter **m**, press MNO 6.

4) To enter **i**, press GHI 4 three times.

5) To enter **c**, press ABC 2 three times.

6) To enter **e**, press DEF 3 twice.

5.1.2 Adding a data field value

If the required data field value is not available to select, you can add the value using the keypad.

Important: Data field values can only be entered using specific *Western Latin* characters, such as in English.

The following example assumes that **Data 1** has been configured to hold customer names and shows how to add a new customer name:

1) Press .
   The *Data Menu* will display.

2) Select **Customer**, then press .
   The *Customer* screen will display.

3) Press .
   The *Data Entry* screen will display.

4) Use the keypad to enter the name of the value, then press .
   The new customer value will be assigned to the next load.

5.1.3 Editing a data field value

You can edit a data field value if required by using the *Data List* function.

Important: Data field values can only be entered using specific *Western Latin* characters, such as in English.

1) Press .
   The *Setup Menu* will display.

2) Select **Data List**, then press .
   The *Edit?* Screen will display.

3) Complete the following:

If …	Then …
you would like to edit a data value from the data field that is displayed	press .
you would like to select a different data field	press until the required data field is displayed, then press .

4) Press or to scroll up or down the list of data values until the required data value is displayed, then press .
   The *Data Entry* screen will display

5) Use the keypad to edit the data value, then press .

   Tip: Press to clear the current value name.

6) Press .

7) Complete the following:

If …	Then …
you would like to edit another data value	press . Press until the required data field is displayed, then press . Go back to step 4.
you would like to select a different data field	Press . press until the required data field is displayed, then press . Go back to step 5.
you have finished editing data values	Press twice to return to the *Setup Menu*.

5.1.4 Docket numbers

If a Data field has been set as an *AutoInc* (auto-incremental) value during installation, it can be used as a docket number. The docket number will increment by 1 and be automatically assigned every time a new load is started. Auto-incremented docket numbers cannot be entered manually.

- To edit the first number used for auto-incremented docket numbers, see "Editing a data field value" on page 5-23.

If a Data field has been set as a *number*, it can be used as a manually-entered docket number for each load. Complete the following to manually enter a docket number:

1) Press .
The *Data Menu* will display.

2) Select **Docket**, then press .
The *Docket* screen will display.

3) Press .

4) Use the keypad to enter a docket number, then press .
The new docket number will be assigned to the next load.

5.1.5 Data Suspend

The *Data Suspend* functionality is only available if selected at installation.

Data Suspend is a feature that allows you to temporarily suspend data values and set them to **0** (zero).

While data is suspended, the LOADRITE™ Weighing System will:

- Exclude all suspended data fields in printing
- Override all suspended data fields with **0** in data logging
- Display the **Data Suspend** message instead of the data title on the *Total* screen.

Complete the following to suspend or resume data:

1) Press .
The *Data Menu* will display.

2) Select **Data Suspend**, then press .
The *Docket* screen will display.

3) To suspend data, select **On**, then press ; To resume data, select **Off**, then press .

5.2 ADVANCED DATA OPTIONS

5.2.1 Auto-target value look-up

The LOADRITE™ Weighing System can be configured so that target weights are stored for each truck. The target weights are configured during the setup of the LOADRITE™ Weighing System.

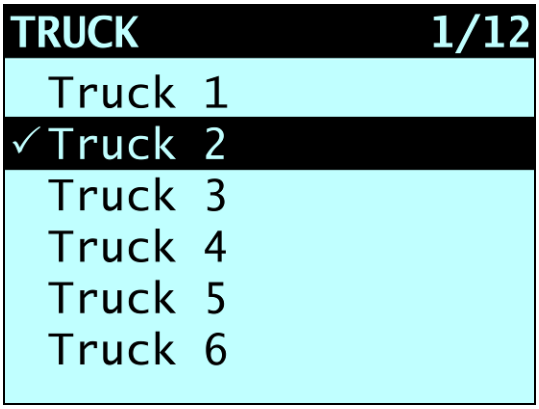
Below is an example of a truck and target list. **Data 2** has been configured to store truck plate numbers and **Data 3** to store the corresponding target values.

Data 2: Truck	Data 3: Target
AGT477	5000
AUQ887	4000
BQ1001	6000
BQ1002	5000

5.2.1.1 View and select target weights

1) Press .
The *Data Menu* will display.

2) Select **Truck**, then press .
The *Truck* screen will display.



3) Press or to scroll up or down the list of trucks until the correct truck is selected

4) Press .
The target weights will display with the auto-target weight pre-selected.

5) Press to confirm the target weight, or press C to clear the target weight and enter a new target weight.
The *Target* screen will display.

5.2.1.2 Using an index number to view a truck target value

The LOADRITE™ Weighing System can be configured so that an index number can be used to look up the target for a particular truck.

Following is an example of an indexed truck and target list. **Data 4** has been configured as a target list with the index function enabled. The index numbers are used to identify each truck.

Index	Data 4: Target
1 (AAT053)	25.000
2 (ABT384)	16.000
3 (AUS994)	15.500
4 (YE9444)	22.500
5 (UK9900)	22.000

1) Press .
   The *Data Menu* will display.

2) Select **Target**, then press .
   The *Target* screen will display.

3) Use the keypad to enter the index number of the truck, then press .
   The target for the truck will be displayed, then the *Total* screen will be displayed.

5.2.2 Auto-tare value look-up

This function is similar to *Auto-target value look-up*, except that it handles tare values. It is possible to recall the tare value from memory by either entering a number or scrolling through a list of truck names. The procedures are the same as the *Auto-target value look-up* functionality.

5.2.3 Prompt

The *Prompt* functionality is only available if selected at installation.

This function will automatically prompt for data field entries when a new product is selected or the current short total is cleared.

6. OPERATION MODES

The operation modes that are available depend on the modes selected at installation.

The LOADRITE™ Indicator can be operated in different modes:

Mode	Description
Total	This is the normal mode of operation. As loads are added, the weights are added to the totals. The short total is displayed.
Target	In this mode, a target weight is entered into the Indicator before loading. As loads are added, the remaining value to reach the target is displayed.
Batch	*Batch* mode allows the weighing and loading of different products according to a predefined recipe that specifies the required proportions. The grand batch target is entered before loading. The LOADRITE™ Indicator will work out individual product weights needed.
Blend	*Blend* mode allows a fixed number of loads of different products, according to a predefined recipe
Mix	This mode is similar to *Batch* mode except that the grand target is not required. Load the first product to a certain amount and the LOADRITE™ Indicator will work out how much of the other products are required based on relative quantities in the predefined recipe.
Split	The mode used when loading a multiple train wagons or a truck with multiple trailers where individual totals are required for each individual vehicle. Can be used within *Total* or *Target* modes.
Grand Total	This mode creates one grand total using short totals for all products. This can be used to ensure that the total across all products does not exceed a specified weight.

6.1 TARGET MODE

***Target* mode is only available if selected at installation.**

Target mode is typically used when loading a truck to its optimum payload. This feature provides an easy way to load up to a target weight for a product in a series of lifts. In *Target* mode, the Indicator displays the *To* load (or target) value, which is the remaining amount to reach the target.

Before loading, the operator enters a target weight. Each time a weight is added, the *To* load value is reduced by that weight.

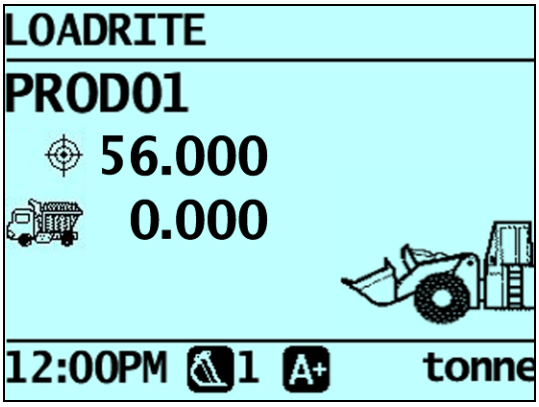
6.1.1 How do I enter Target mode and input a new target?

1) Press C to clear the previous short total.

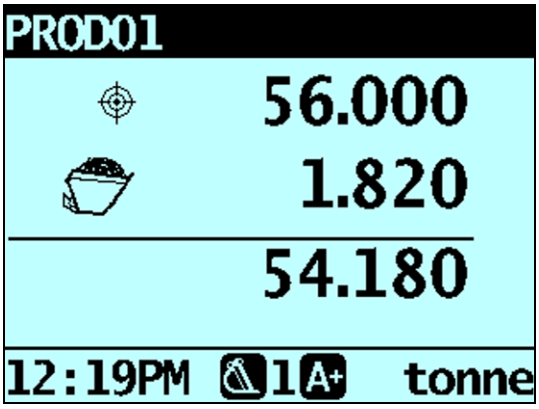
2) Press .

3) When the **Target?** message is displayed, use the keypad to enter the new target amount.

4) Press .
The **Target Updated** message will display briefly, then the *Target* screen will be displayed.



As you lift a weight, the target weight is displayed along with the current lifted weight and the potential weight if the lift is added.



As the truck is loaded, the target amount will decrease.
The aim is to get as close to **0** (zero) as possible. A positive *To* load value is under the target; a negative *To* load value is over the target.

6.1.2 How do I reset the target?

When the load is complete, the target must be reset. This is the equivalent of clearing the short total in *Total* mode.

- To reset the target, press C.
  The **Target Reset** message will display briefly and then the *Target* screen will display.

6.1.3 How do I return to Total mode?

To return to *Total* mode from *Target* mode, the target must be set to **0**.

1) Press .

2) When the **Target?** message is displayed, press C, then press .
   The *Total* screen will display.

6.2 BATCH MODE

***Batch* mode is only available if selected at installation.**

Batch mode allows products to be weighed and loaded according to a predefined *recipe*. Enter the target weight of the batch and your LOADRITE™ Weighing System will calculate the amount required for each product in the recipe. Each time a weight is added, the to load value is reduced by that weight.

A recipe can contain up to ten products and includes the relative amount of each product in a batch.

Batch mode process

1) Enter *Batch* mode.
2) Select the current recipe or enter a new recipe for the batch.
3) Enter the total target amount for the batch.
4) Select a product and weigh each bucket-load until the product target is reached.
5) Repeat step 4 for each product in the recipe until the batch target is reached.

Example: *Batch* mode calculation

A recipe of three products, their proportions and a total load of 7000kg. The LOADRITE™ Weighing System will calculate the amount of each product that is required for each load.

Product	Proportion	Amount Calculated
Sand	4	4000kg
Gravel	2	2000kg
Pumice	1	1000kg
	Total	7000kg

As products are loaded, the LOADRITE™ Weighing System maintains the target amount for each product in a similar way to *Target* mode. It is possible to change from one product to another at any time in order to mix the products.

When in *Batch* mode, the Indicator displays the target value for each product as it is weighed.

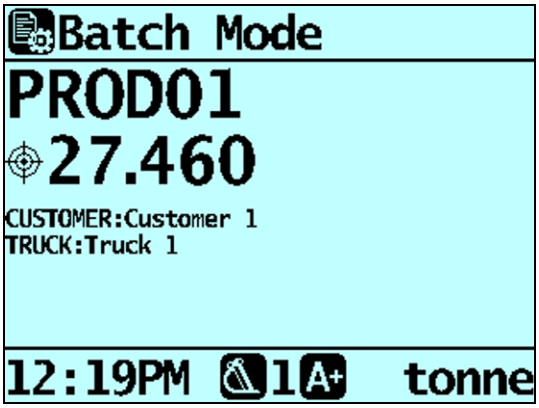
6.2.1 How do I enter Batch mode and select a recipe for the batch?

1) Press , then scroll if required until **Batch Mode?** is displayed.
2) Press .
   The **Batch Recipe** message will display.
3) Complete the following:

If …	Then …
the **Recipe Empty** message displays briefly, before displaying the *Product* screen	there is no recipe available. To enter a new recipe, see, see "How do I enter a new recipe?" on page 6-31.
the *Recipe* screen displays	there is a current recipe available. To accept the recipe, go to step 4. To enter a new recipe, see, see "How do I enter a new recipe?" on page 6-31.

4) Press (press again if prompted).
   The *Target?* screen will display.
5) When the **Target?** message is displayed, use the keypad to enter the total target amount for the batch.

6) Press .
The *Batch* screen will display the target value for the first product from the recipe.



6.2.2 How do I delete the current recipe?

1) From the *Recipe* screen, press .
The **Recipe: OK** message will display.

2) Press .
The **Recipe Clear?** message will display.

3) Press to delete the recipe.
The **Recipe Empty** message displays briefly, before displaying the *Product* screen.

6.2.3 How do I enter a new recipe?

If there is no current recipe, or you have just deleted the current recipe, the *Product* screen will display.

Note: Before a new recipe can be entered, the current recipe must be deleted.

1) From the *Product* screen, press or to scroll up or down through the list to find a product required for the recipe.

2) Press to select a product to add to the recipe.
The *Target* screen will display.

3) Use the keypad to enter the required amount for the product, then press .
The *Product* screen will display.

4) Repeat steps 1-3 until all of the required products and amounts have been added to the recipe.

5) When the recipe is complete, press .
The **Recipe Updated** message will display before the *Recipe* screen is displayed.

6) Press (press again if prompted).
The *Total* screen will display.

6.2.4 How do I switch between products?

It is possible to load products in any order and switch between products at any time, as the LOADRITE™ Weighing System maintains the individual totals for each product.

1) Press .
   The *Data Menu* will display.

2) Select **Product**, then press .
   The *Product* screen will display.

3) Press or to scroll up or down to the required product, then press .
   The *Batch* screen will display the target value for the selected product from the recipe.

6.2.5 How do I clear the batch totals?

When the batch is complete, press C.
The totals for all products are cleared, before the *Total* screen is displayed. This is the equivalent of clearing the total in *Total* mode.

6.2.6 How do I return to Total mode?

To return to *Total* mode from *Batch* mode, press C.
You will also return to *Total* mode if you clear the batch totals or select a product which is not in the recipe.

6.3 MIX MODE

***Mix* mode is only available if selected at installation.**

Mix mode is similar to *Batch* mode except that a target value for the mix is not required.

Mix mode allows products to be weighed and loaded according to a predefined *recipe*. Load the first product to the required amount and your LOADRITE™ Weighing System will calculate the amount required for each of the remaining products based on the amount loaded for the first product.

The first product in the recipe is called the primary product. When the primary product is being loaded, the Indicator displays the short total for the recipe. When the other products in the recipe are selected, the Indicator displays the load value for the selected product.

A recipe can contain up to ten products.

Mix mode process

1) Enter *Mix* mode.
2) Select the current recipe or enter a new recipe.
3) Select the first product and load it until the required amount is reached.
4) The LOADRITE™ Weighing System will calculate the target amount for each of the remaining products
5) Select the next product and weigh each bucket-load until the product target is reached.
6) Repeat step 5 for each product in the recipe until the target is reached.

Example: *Mix* mode calculation

A recipe of three products and their proportions. When the primary product (sand for this example) has been loaded, the LOADRITE™ Weighing System will calculate the amount required for each of the other products in the recipe.

Product	Proportion	Amount
Sand (primary)	4	4000kg (loaded)
Gravel	2	2000kg (calculated)
Pumice	1	1000kg (calculated)

As products are loaded, the LOADRITE™ Weighing System maintains the target amount for each product in a similar way to *Target* mode. It is possible to change from one product to another at any time in order to mix the products.

6.3.1 How do I enter Mix mode and select a recipe for the batch?

1) Press , then scroll if required until **Mix Mode?** is displayed.
2) Press .
   The **Mix Recipe** message will display.
3) Complete the following:

If …	Then …
the **Recipe Empty** message displays briefly, before displaying the *Product* screen	there is no recipe available. To enter a new recipe, see "How do I enter a new recipe?" on page 6-31.
the *Recipe* screen displays	there is a current recipe available. To accept the recipe, go to step 4. To enter a new recipe, see "How do I enter a new recipe?" on page 6-31.

4) Press (press again if prompted).
   The *Total* screen will display.

6.3.2 How do I delete the current recipe?

1) From the *Recipe* screen, press .
The **Recipe: OK** message will display.

2) Press .
The **Recipe Clear?** message will display.

3) Press to delete the recipe.
The **Recipe Empty** message displays briefly, before displaying the *Product* screen.

6.3.3 How do I enter a new recipe?

If there is no current recipe, or you have just deleted the current recipe, the *Product* screen will display.

Note: Before a new recipe can be entered, the current recipe must be deleted.

1) From the *Product* screen, press or to scroll up or down through the list to find a product required for the recipe.

2) Press to select a product to add to the recipe.
The *Target* screen will display.

3) Use the keypad to enter the required amount for the product, then press .
The *Product* screen will display.

4) Repeat steps 1-3 until all of the required products and amounts have been added to the recipe.

5) When the recipe is complete, press .
The **Recipe Updated** message will display before the *Recipe* screen is displayed.

6) Press (press again if prompted).
The *Total* screen will display.

6.3.4 How do I switch between products?

It is possible to load products in any order and switch between products at any time, as the LOADRITE™ Weighing System maintains the individual totals for each product.

1) Press .
The *Data Menu* will display.

2) Select **Product**, then press .
The *Product* screen will display.

3) Press or to scroll up or down to the required product, then press .
The *Total* screen will display.

6.3.5 How do I clear the totals?

When all products have been loaded, press .
The totals for all products are cleared, before the *Total* screen is displayed. This is the equivalent of clearing the total in *Total* mode.

6.3.6 How do I return to Total mode?

To return to *Total* mode, press .
You will also return to *Total* mode if you clear the totals or select a product which is not in the recipe.

6.4 BLEND MODE

***Blend* mode is only available if selected at installation.**

Blend mode is similar to *Batch* mode except that the recipe contains the total number of loads required for each product, rather than a target load.

When you load the first product, your LOADRITE™ Weighing System will automatically change to the next product when the required number of lifts has been reached.

A recipe can contain up to ten products.

Blend mode process

1) Enter *Blend* mode.
2) Select the current recipe or enter a new recipe.
3) Select the first product and load it until the required number of lifts is reached.
4) The LOADRITE™ Weighing System will track the number of lifts and prompt you when to change products.
5) Select the next product and weigh each bucket-load until you are prompted to change products.
6) Repeat step 5 for each product in the recipe until all products have been loaded.

Example: *Blend* mode calculation

A recipe of three products and the number of loads required. During weighing, the LOADRITE™ Weighing System will guide you through the process, resulting in 26 loads.

Product	Loads
Sand	6
Gravel	10
Pumice	10

6.4.1 How do I enter Blend mode and select a recipe for the batch?

1) Press , then scroll if required until **Blend Mode?** is displayed.
2) Press .
   The **Blend Recipe** message will display.
3) Complete the following:

If …	Then …
the **Recipe Empty** message displays briefly, before displaying the *Product* screen	there is no recipe available. To enter a new recipe, see "How do I enter a new recipe?" on page 6-31.
the *Recipe* screen displays	there is a current recipe available. To accept the recipe, go to step 4. To enter a new recipe, see "How do I enter a new recipe?" on page 6-31.

4) Press (press again if prompted).
   The *Total* screen will display.

6.4.2 How do I delete the current recipe?

1) From the *Recipe* screen, press .
The **Recipe: OK** message will display.

2) Press .
The **Recipe Clear?** message will display.

3) Press to delete the recipe.
The **Recipe Empty** message displays briefly, before displaying the *Product* screen.

6.4.3 How do I enter a new recipe?

If there is no current recipe, or you have just deleted the current recipe, the *Product* screen will display.

Note: Before a new recipe can be entered, the current recipe must be deleted.

1) From the *Product* screen, press or to scroll up or down through the list to find a product required for the recipe.

2) Press to select a product to add to the recipe.
The *Target* screen will display.

3) Use the keypad to enter the required amount for the product, then press .
The *Product* screen will display.

4) Repeat steps 1-3 until all of the required products and amounts have been added to the recipe.

5) When the recipe is complete, press .
The **Recipe Updated** message will display before the *Recipe* screen is displayed.

6) Press (press again if prompted).
The *Total* screen will display.

6.4.4 How do I switch between products?

It is possible to load products in any order and switch between products at any time, as the LOADRITE™ Weighing System maintains the individual totals for each product.

1) Press .
The *Data Menu* will display.

2) Select **Product**, then press .
The *Product* screen will display.

3) Press or to scroll up or down to the required product, then press .
The *Total* screen will display.

6.4.5 How do I clear the totals?

When all products have been loaded, press .
The totals for all products are cleared, before the *Total* screen is displayed. This is the equivalent of clearing the total in *Total* mode.

6.4.6 How do I return to Total mode?

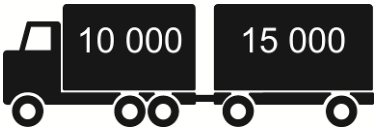
To return to *Total* mode, press .
You will also return to *Total* mode if you clear the totals or select a product which is not in the recipe.

6.5 SPLIT MODE

Split mode splits the total weight into multiple sub-totals, providing an easy way to load train wagons, or a truck and trailer. *Split* mode is also used to track load distribution over a single vehicle unit, to avoid overloading an axle.

Split mode can be used in conjunction with *Total* or *Target* modes.

Example

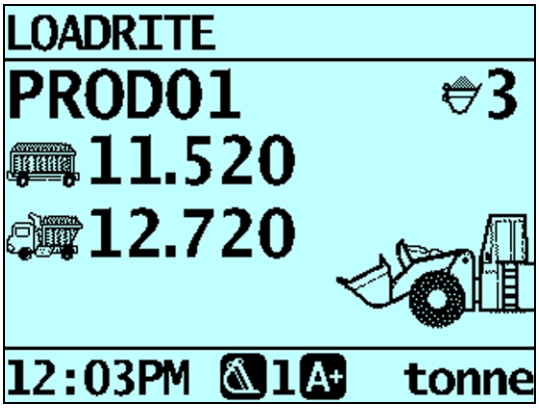


A truck with a trailer requires loading. The truck can carry 10,000 tonnes and the trailer 15,000 tonnes, making a total of 25,000 tonnes.

6.5.1 Split mode within Total mode

1) In *Total* mode, load the truck with the required amount or product.

2) When the required amount of product for the truck is reached, press .
The subtotal will briefly display, then the *Split Mode* screen will display. The grand total of the entire vehicle is shown, along with the short total for the trailer:



3) Add the required amount of product to the trailer.
As each bucketload is lifted, the bucket weight, current trailer weight and total trailer weight will display. Between each lift, the *Split Mode* screen will display showing the new grand total and number of buckets lifted.

4) If you would like to split the load to another trailer, press , then go to step 3. Otherwise, continue to step 5.

5) When all trailers have been filled, press C to clear the totals.

6.5.2 Split mode within Target mode

1) In *Target* mode, enter the target weight for the truck.

2) Load the truck with the required amount of product.

3) When the required amount of product for the truck is reached, press .

4) Press .

5) When the **Target?** message is displayed, use the keypad to enter a target weight for the trailer.
The *Split* screen will display showing the current target weight for the trailer and the grand total for the entire vehicle.

6) Add the required amount of product to the trailer.

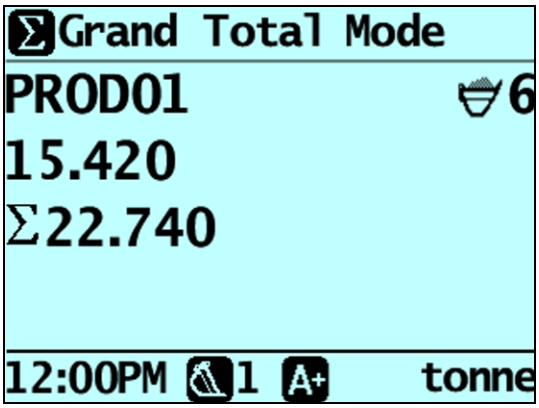
7) Press C to clear the totals.
The *Total* screen will display.

6.6 GRAND TOTAL MODE

Grand Total mode is similar to *Split* mode in that it allows loading into a truck with multiple trailers, or a train with multiple wagons. Unlike *Split* mode however, different products can be loaded into each trailer or wagon.

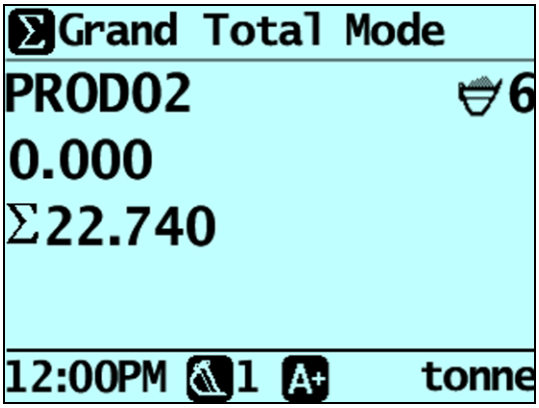
In *Grand Total* mode, a grand total is entered for the entire load. A short total is kept for all products which are added together to ensure that they do not exceed the grand total.

1) To enter *Grand Total* mode, press .
The *Grand Total Mode* screen will display.



2) Load the truck with the required amount of product. The short total and the grand total will be updated.

3) When a new product is selected, the short total is reset to zero, but the grand total will be maintained for all products.



4) When all products have been loaded, press C to clear the totals.

5) To exit *Grand Total* mode, press , then press .

7. ADVANCED WEIGHING – TIP-OFF

The *Tip-off* functionality is only available if selected at installation.

Tip-off weighing is the adjustment of the final load. It is possible to tip a measured amount of the product out of the last bucket to ensure an exact target weight is reached, where the final load would otherwise exceed the truck's capacity. There are two different methods, depending on the way your LOADRITE™ Weighing System has been configured:

- Truck tip-off (default)
- Stock pile tip-off

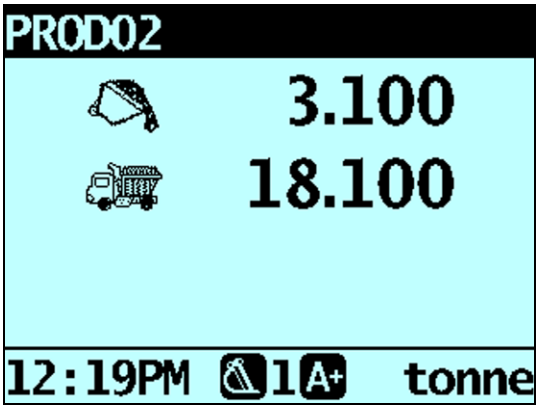
Tip-off is only available in *Total* and *Target* modes.

7.1 TRUCK TIP-OFF

Using this method, the operator tips a measured amount of product from the bucket into the truck and dumps the rest.

1) Lift the load in the normal way.
   The Indicator will display the lifted weight.

2) Lift the bucket to a suitable height over the truck, then press .
   The **Tip-Off Wait** message will display briefly. Then the screen will display two figures, the amount in the bucket and the short total.



3) Roll the bucket partially forward, tipping product into the truck. The Indicator will give a live weight as it is tipped into the truck.

IMPORTANT: Do not raise or lower the lifting arms when tipping, as this will adversely affect the live weight reading. The bucket needs to be rolled back for an accurate weight.

4) When the required truck load weight is reached, press .

Note: You cannot add a weight while the **Wait...** message is displayed.

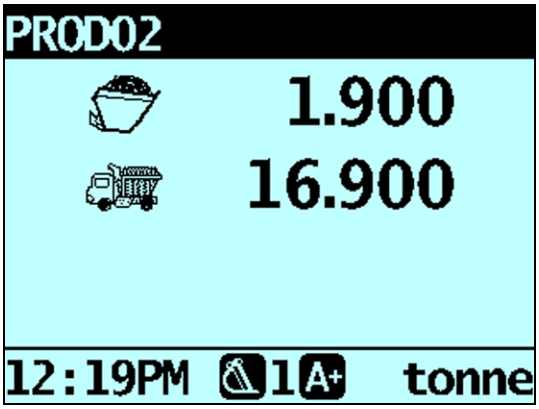
5) Move the bucket away from the truck and dump any remaining product.

7.2 STOCK PILE TIP-OFF

Using this method, the operator dumps product from the bucket until it contains the right amount for loading onto the truck.

1) Lift the load in the normal way.
   The Indicator will display the lifted weight.

2) Press .
   The **Tip-Off Wait** message will display briefly. Then the screen will display the amount in the bucket and the short total.



3) Roll the bucket partially forward, dumping the product.
   The Indicator will display the weight in the bucket and the potential weight of the truck.

Note: Do not raise or lower the lifting arms when tipping, as this will adversely affect the live weight reading. The bucket needs to be rolled back for an accurate weight.

4) Keep dumping the product until the desired weight has been reached, then press .

Note: You cannot add a weight while the **Wait...** message is displayed.

5) Tip the product from the bucket into the truck.

8. ADVANCED WEIGHING – TARE WEIGHT

The *Tare Weight* functionality is only available if selected at installation.

There are two different methods of deducting a tare weight from a load, depending on the way your LOADRITE™ Weighing System has been set up:

Tare – Lifted weight

The tare weight can be deducted at the time when the weight is lifted.

For example, if pallets are being used, the weight of a pallet can be entered as the tare weight. The LOADRITE™ Weighing System will automatically deduct the pallet weight from the lifted weight and displays the net weight of the load.

Tare – Total weight

The tare weight can be added to the total weight of the load.

For example, if you are loading a vehicle or truck with a known maximum weight, the weight of the vehicle or truck can be enter as the tare weight. The LOADRITE™ Weighing System will automatically add the tare weight to the total load weight to ensure that the vehicle is not loaded beyond the maximum weight.

8.1 HOW DO I ENTER A TARE WEIGHT?

To enter a tare weight, complete the following:

1) Press .
   The *Setup Menu* will display.

2) Select **Tare Entry**, then press .
   The *Tare?* Screen will display.

3) Use the keypad to enter the required tare weight, then press .

   Note: If the tare weight is **0.000**, less than the set increment size or is too large, the **Tare Off** message will display before the Total screen is displayed.

4) The **Tare Updated** message will display before the *Total* screen is displayed.

9. METRICS

➢ > *Metrics*

The *Metrics* functionality allows you to view the following KPI metrics over a selected time period:

- First Load
- Last Load
- Total Weight
- Average Weight Per Hour.

NOTE: The Average Weight Per Hour (**Avg Wght/h**) value is based on cleared weights and the number of hours between the first and last weight of each day.

1) From the *Period* screen, press or to select the time period:

Period	Description
Today	Calculates metrics from data recorded since midnight.
Yesterday	Calculates metrics from data recorded for a 24 hour period prior to midnight.
This Week	Calculates metrics from data recorded since midnight and the previous six days.
All	Calculates metrics from all data stored (this may have little relevance unless the start time is known).

2) Press .
The *Metrics* screen will display KPI metrics for the selected time period.

10. PRINTING

The printing options that are available depend on options selected at installation.

Data on the LOADRITE™ Indicator can be printed immediately, or stored in internal storage for delayed printing. There is normally enough storage for up to one week, depending on usage.

10.1 AUTOMATIC PRINTING

Depending on your configuration, various weight data is printed either:

- when C is pressed at the end of a load, or
- when +, ▸0◂, ⮌ or C is pressed.

The information that is printed depends on settings selected at installation. For further information, contact your LOADRITE™ distributor.

10.2 PRINTING ON DEMAND

The LOADRITE™ Indicator has a range of options for printing data immediately. Printing options are selected from the *Print Menu*.

10.2.1 Print Docket

➢ ***> Print Menu > Docket***

The *Print Docket* function prints the previous load, which is made up of all data stored (for example, add, subtract) between the last two clear events. If the data is not stored, it will not be printed. For example, if the Indicator is not configured to log add events, weights added will not be printed. This function requires internal storage to be enabled. All configuration of this function is set during installation.

Note: This function will not work if *Clear* is not used as intended. For example, the operator is loading sand into a truck and half-way through, a second truck arrives. The operator switches product to rocks and starts loading the second truck (without clearing the sand total). When the docket is printed, the added weights of sand plus the added weights and total of rocks will be included.

10.2.2 Print Totals

➢ ***> Print Menu > Totals***

This function prints the total amount of each product loaded that day (since midnight).

10.2.3 Print Indicator Data

➢ ***> Print Menu > Loadout***

This printing option is only available if it has been enabled during installation and *Internal Storage* functionality is enabled.

This function prints out all print data stored in the LOADRITE™ Indicator memory since midnight (whether or not it has been turned off at any stage during that time).

Depending on the configuration, every add, clear, check zero, etc could be included in the printout.

10.2.4 Print LOADRITE™ Data Module Data

➢ *> Print Menu > Data Module*

This printing option is only available if the LOADRITE™ Data Module has been enabled for logging at installation.

This function prints out all print data stored in the LOADRITE™ Data Module since midnight (whether or not it has been turned off at any stage during that time).

Depending on the configuration, every add, clear, check zero, etc, could be included in the printout.

10.2.5 Print Special Report

➢ *> Print Menu > Special*

This function allows various reports to be printed from stored data. A series of options are available and the report is created from the options selected.

TIP: The *Control* report options can also be accessed directly from a data field screen, for example the *Customer* screen, by pressing . The *Period Options* will display for the selected data value.

Format Options

Format	Description
Summary	Prints a summary of the selected data.
History	Prints all the selected data.
KPI	Prints the start time, end time, total weight and average weight per hour for each day of the selected period. Average weight per hour is based on cleared weights and the number of hours between the first and last weight of each day.
Control	Prints all dockets for the selected data.

Press or to scroll up or down, then press .
The *Period Options* will be displayed.

Period Options

Format	Description
Today	Prints the report based on data recorded since midnight.
Yesterday	Prints the report based on data recorded for a 24 hour period prior to midnight.
This Week	Prints the report based on data recorded since midnight and the previous six days.
All	Prints the report based on all the data stored (this may have little relevance unless the start time is known).

Press or to scroll up or down, then press .
If **Today**, **Yesterday** or **This Week** was selected, the *Group Options* will display. If **All** was selected, the *Port Options* will display.

Group Options

Format	Description
Totals	The printout is grouped and summarized by product total.
Customer	The printout is grouped and summarized by Data Field 1.
Docket	The printout is grouped and summarized by Data Field 2.
Truck	The printout is grouped and summarized by Data Field 3.

Press or to scroll up or down, then press .
If **Totals** was selected, the *Port Options* will display. Otherwise the *Match Options* will display.

Match Options

Format	Description
Match All	All values are used on the printout.
Match One	Only one of the grouped values is reported on. For example, if the printout is grouped by Customer, a report can be generated on one Customer.

Press or to scroll up or down, then press .

If **Match All** was selected, the *Load Options* will display. If **Match One** was selected, the specific customer (for example) must now be selected before the *Load Options* are displayed.

Load Options

This option determines whether or not the printout will display the number of loads per product. The options are **On** or **Off**.

Press or to scroll up or down, then press .
The *Port Options* will display.

Port Options

Format	Description
Printer	Prints to the LOADRITE™ printer.
EDP	Captures data to a laptop or Data Module.

Press or to scroll up or down, then press .
When the port has been selected, the report will print.

10.2.6 Print Summary Report

➢ ***> Print Menu > Summary***

This function prints out a summary report that is grouped and summarized by Data 1. For example, if **Data 1** is a customer field, then this function generates a customer total report using the data stored in the internal memory since midnight.

10.2.7 Print Data List

➢ ***> Print Menu > Data List***

This function prints a list of all values from the configured Data Fields (Data 1, Data 2, etc). This function is normally only used to confirm that the values are correct after the list has been updated.

10.2.8 Set Number of Copies

➢ ***> Print Menu > Copy***

This function sets the number of dockets to be printed at each clear event.

10.2.9 Print Product Names

➢ *> Print Menu > Product Name*

This function prints out a list of all the product names configured in the LOADRITE™ system.

Tip: This function is normally only used to check the names when the list has been updated.

10.2.10 Print Volume Conversion Factors

➢ *> Print Menu > Volume Conv*

This printing option is only available if *Volume Conversion Factors* functionality is enabled at installation.

This function prints out a list of all the product conversion factors configured in the LOADRITE™ Weighing System. This is normally only used when the list has been updated.

10.2.11 Print Standby Message

➢ *> Print Menu > Standby*

The LOADRITE™ weighing system normally displays the service contact details of your local LOADRITE™ distributor when the Indicator is put into *Standby* mode. These details can also be printed by selecting **Print Standby**.

11. INTERNAL STORAGE

The LOADRITE™ Indicator stores data for delayed printing, printing reports or as a buffer for an absent LOADRITE™ Data Module. There is normally enough storage for up to one week, depending on usage.

11.1 DOWNLOAD

➢ *> Internal Stor > Download*

This function downloads all data in the internal storage so that it can be imported into LOADRITE™ MMS via LOADRITE™ Toolbox.

11.2 USAGE

➢ *> Internal Stor > Usage*

Displays the amount of free storage space remaining in the LOADRITE™ Indicator internal storage. It also displays the time and date of the first saved event.

11.3 RESET

➢ *> Internal Stor > Reset*

This function erases all data sorted in the LOADRITE™ Indicator. The time and date of the first entry along with the remaining free space is displayed, before the message **Storage clear?** is displayed.

- Press to erase the data from memory.

Tip: We recommend that you erase the internal storage after reports are generated to prevent duplicate information being included in subsequent reports.

12. SETUP MENU

The *Setup Menu* options that are available depend on options selected at installation.

The *Setup Menu* provides options for configuring the LOADRITE™ Weighing System.

- To display the *Setup Menu*, press . Press or to scroll up or down, then press to select an option.
- To exit the *Setup Menu*, press .

Menu Option	Description
Setup…	Displays the *Install Menu*. For further information, contact your LOADRITE™ distributor.
Auto-Add	Select whether or not *Auto-Add* is enabled.
Tare Entry	Allows a tare value to be entered.
Unit Toggle	Select between two units of weight.
Trig Screen	Select whether the trigger position graphic is displayed.
Language	Select the language for the Indicator.
Edit Password	Change the login PIN number.
Scale#	Select the attachment.
Module	Displays the *Data Module* screen.
Data Edit	Select the data value for the data field.
Data List	Edit data values.
Clock	Displays the *Clock* screen.
Display	Select the backlight, contrast and indicator interface image options.
Self Test	Runs a system self-test
Uplink	Allows the Indicator to communicate with the *LOADRITE™ Toolbox* PC software
Standby	Puts the Indicator into *Standby* mode

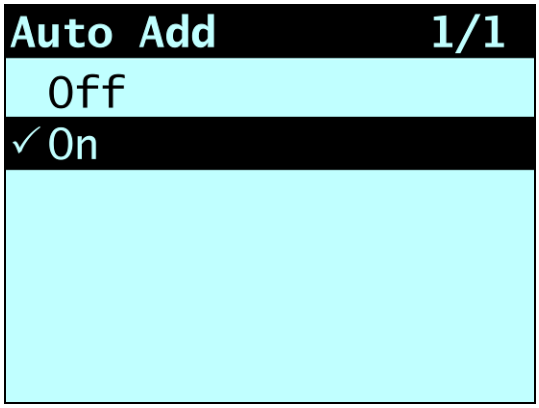
12.1 SETUP...

The *Install Menu* provides options for configuring the LOADRITE™ Indicator at installation. A security code is required to access this menu.

- For further information, contact your LOADRITE™ distributor.

12.2 AUTO-ADD

Controls whether or not the *Auto-Add* functionality is enabled.



- Select either **On** or **Off**, then press .

12.3 TARE ENTRY

Allows you to enter a tare weight value. To enter a tare weight, complete the following:

- Use the keypad to enter the required tare weight, then press .

  Note: If the tare weight is **0.000**, less than the set increment size or is too large, the **Tare Off** message will display before the *Total* screen is displayed.

  The **Tare Updated** message will display before the *Total* screen is displayed.

12.4 UNIT TOGGLE

The LOADRITE™ Indicator can store up to two units of weight and you can use the **Unit Toggle** option to switch between them. The current weight will be displayed in the current weight unit and in the other available weight unit.

- To confirm the change to the other weight unit, press .
- To keep the current weight unit, press .

12.5 TRIG SCREEN

Controls whether the loader position graphic is displayed.

- Select either **On** or **Off**, then press .

12.6 LANGUAGE

The language can only be changed if Language Edit functionality has been enabled during installation.

Displays a list of available languages in which the LOADRITE™ Indicator can display screen names, fields, menu options and printed dockets.

- Select the preferred language, then press .

12.7 EDIT PASSWORD

A password can only be edited if *Login* functionality has been enabled during installation.

Allows the PIN number of the current operator to be changed using the keypad.

- Enter the new PIN number using the keypad, then press .

12.8 SCALE

The *Scale* options are only available if *Multiple Scales* functionality has been enabled during installation.

This option enables the use of different load bearing implements (for example, bucket or forks) on the loader. The operator needs to select the correct scale for the attached implement.

Tip: You should perform a *Check Zero* after changing the attachment.

12.9 MODULE

The *Module* option is only available if a LOADRITE™ Data Module is connected to the Indicator and *Data Logger* functionality has been correctly configured during installation.

The *Data Module Menu* provides functionality for use with LOADRITE™ Data Modules.

The following menu items are available:

Option	Description
Property	Lists the properties of the Data Module.
Backup	Saves the product list and data lists to the Data Module.
Restore	Uploads data stored on the Data Module to the LOADRITE™ Indicator. This can be used to share data between Indicators.

12.10 DATA EDIT

Allows you to select a value for each data field:

1) Press .
   The *Setup Menu* will display.

2) Select **Data Edit**, then press .
   The *Data Edit* screen for the first data field will display.

3) Use or to select the required data value for the data field, then press .
   The *Data Edit* screen for the next data field will display.

4) Repeat steps 2-3 until data values have been selected for all data fields.

12.11 DATA LIST

12.11.1 Adding a data value

Important: Data field values can only be entered using specific *Western Latin* characters, such as in English.

1) Press .
The *Setup Menu* will display.

2) Select **Data List**, then press .
The *Edit?* screen will display.

3) Complete the following:

If …	Then …
you would like to add a data value to the data field that is displayed	press .
you would like to select a different data field	press until the required data field is displayed, then press .

4) Press .
The *Data Entry* screen will display.

5) Use the keypad to enter the data value, then press .

6) Complete the following:

If …	Then …
you would like to add another data value	Go back to step 4.
you would like to select a different data field	Press . press until the required data field is displayed, then press . Go back to step 4.
you have finished editing data values	Press twice to return to the *Setup Menu*.

12.11.2 Editing a data field value

You can edit a data field value if required by using the *Data List* function.

Important: Data field values can only be entered using specific *Western Latin* characters, such as in English.

1) Press .
The *Setup Menu* will display.

2) Select **Data List**, then press .
The *Edit?* Screen will display.

3) Complete the following:

If …	Then …
you would like to edit a data value from the data field that is displayed	press .
you would like to select a different data field	press until the required data field is displayed, then press .

4) Press or to scroll up or down the list of data values until the required data value is displayed, then press .
The *Data Entry* screen will display

5) Use the keypad to edit the data value, then press .

Tip: Press to clear the current value name.

6) Press .

7) Complete the following:

If …	Then …
you would like to edit another data value	press . Press until the required data field is displayed, then press . Go back to step 4.
you would like to select a different data field	Press . press until the required data field is displayed, then press . Go back to step 5.
you have finished editing data values	Press twice to return to the *Setup Menu*.

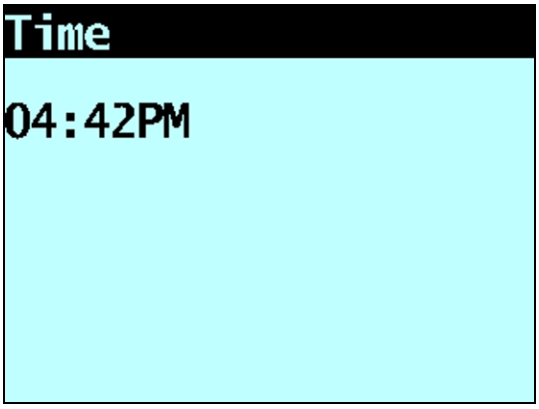
12.12 CLOCK

The time, date and year can only be changed if *Clock Edit* functionality has been enabled during installation.

You can set the time, date and year on the Indicator.

12.12.1 Setting the time

1) From the *Clock Menu* select **Time**, then press .
The time will display with the cursor over the first digit.



2) Use the keypad to enter the time.

   a. Press or to select **AM** or **PM**.

   b. Press to confirm the new time.

12.12.2 Setting the date

1) From the *Clock Menu* select **Date**, then press .
2) Use the keypad to enter the month and day.

   c. Press **1**-**9** for **January** to **September**; Press **0** then **0** for **October**; Press **0** then **1** for **November**; Press **0** then **2** for **December**.

   d. Press to confirm the new date.

12.12.3 Setting the year

1) From the *Clock Menu* select **Year**, then press .
2) Use the keypad to enter the last two digits of the year. For example, press **1** then **1** for **2011**.
3) Press to confirm the new year.

12.12.4 Alarm

This option turns the alarm clock **On** or **Off**. When the alarm time is reached, the following will occur:

- an alert tone will sound,
- the **Alarm Clock** message will display,
- (**Trigger light**) will flash.

The alarm will stop after a few seconds or when any button is pressed.

The alarm clock will alert when the Indicator is in *Ready* or *Standby* mode. The alarm clock will not alert if the Indicator is turned off.

12.12.5 Alarm time

This option changes the alarm time.

Note: The alarm will only alert if the **Alarm** option is set to **On**.

1) From the *Clock Menu* select **Alarm Time**, then press .
   The alarm time will display with the cursor over the first digit.
2) Use the keypad to enter the time.
3) Press or to select **AM** or **PM**.
4) Press to confirm the new alarm time.

12.13 DISPLAY

This option allows the display to be configured. The following menu items are available:

12.13.1 Changing the screen brightness

To change the brightness of the display screen, complete the following:

1) From the *Display Menu* select **Light**, then press .
2) Press or to adjust the backlight brightness up or down.
3) Press to save the brightness level.

12.13.2 Changing the screen contrast

To change the contrast of the display screen, complete the following:

1) From the *Display Menu* select **Contrast**, then press .
2) Press or to adjust the backlight contrast up or down.
3) Press to save the contrast level.

12.13.3 Selecting Arm Graphic

To select whether the loader graphic or bar graph displays on the *Total* screen, complete the following:

Note: The loader graphic will only be displayed if the *Total* screen layout is set to **Classic**. If the *Total* screen layout is set to **Compact** or **Scroll**, the bar graph will display.

1) From the *Display Menu* select **Arm Graphic**, then press .

2) Press or to select **Loader** or **Bar Graph**.

If you would like ...	Then...
the loader graphic to display on the *Total* screen	press or to select **Loader**.
the bar graph to display on the *Total* screen	press or to select **Bar Graph**.

3) Press to save the arm graphic selection.

12.13.4 Changing the Total screen layout

There are three layouts available for the *Total* screen. To change the layout, complete the following:

1) From the *Display Menu* select **Ready Screen**, then press .

2) Press or to select your preferred *Total* screen layout.

3) Press to save your layout selection.

12.13.5 Changing the Target screen layout

There are two layouts available for the *Target* screen. To change the layout, complete the following:

1) From the *Display Menu* select **Target (Classic/Full)**, then press .

2) Press or to select your preferred *Target* screen layout.

3) Press to save your layout selection.

12.14 LONG TOTAL

View and clear the long total for current products.

- For more information, see "View and clear the long total" on page 4-19.

12.15 CLEAR ALL

Allows you to clear the long total for all products.

- For more information, see “View and clear the long total” on page 4-19.

12.16 SELF TEST

This function tests various functions and the internal memory. All tests are run automatically when this option is selected. When the test has completed, the *Total* screen will display.

12.17 UPLINK

This option is used to upload a configuration file created using *LOADRITE™ Toolbox* via a LOADRITE™ Data Module or from a PC via a EDP cable. The configuration file contains product names, data lists and settings.

- For information on creating a configuration file, refer to the *LOADRITE™ Toolbox User Manual*.

12.17.1 Uploading a configuration file via a EDP cable

1) From the *Uplink Menu* select **EDP**, then press .
2) When the **Upload Data?** message displays, press .
3) When the **Clear Data?** message displays, press .

12.17.2 Uploading a configuration file via a LOADRITE™ Data Module

1) From the *Uplink Menu* select **Data Module**, then press .
2) Connect the LOADRITE™ Data Module to the Indicator.
3) When the **Upload Data?** message displays, press .
4) When the **Clear Data?** message displays, press .

12.18 STANDBY

This option puts the Indicator into *Standby* mode. The Indicator will also go into *Standby* mode if it is not used for two hours.

- Press any button to exit *Standby* mode.

13. APPENDIX A: SYSTEM SPECIFICATIONS

13.1 WEIGHING ACCURACY

Typical accuracy is within 1% for most bucket loaders. This may vary with different machine types, installation options, and the operating environment.

13.2 MINIMAL WEIGHING DELAY

Weighing delay is minimal, because the weighing function is carried out during a normal lift.

13.3 POWER REQUIREMENTS

Supply voltage	12 to 32V DC
Supply current	LOADRITE™ Indicator: 160mA typical, 350mA max. LOADRITE™ printer: 50mA standby, 4A peak.
Automatic transient suppression	Exceeds relevant SAE specifications for DC automotive power supply transients.

13.4 PHYSICAL SPECIFICATIONS

LCD display	Backlit; 3.8in (diagonal); QVGA.
Tactile keypad	Backlit. Numeric and special functions.
Weight	1.5 kg (3.2lb)
Dimensions	W145 x L240 x D110mm (5.7 x 9.4 x 4.3 in)

13.5 ENVIRONMENTAL SPECIFICATIONS

Operating temperature	-10°C to 50°C (14°F to 122°F)
Storage temperature	-50°C to 100°C (-58°F to 212°F)
Indicator	Protected to IP54.
Pressure transducer	Protected to IP69.

The Indicator wear-out mechanisms have been evaluated and improved through several iterations of cyclic thermal stress between -90°C and +110°C with simultaneous 6-axis random, repetitive shock exceeding 50Grms.

13.6 SIGNAL INPUTS AND OUTPUTS

Pressure transducer input	4 - 20mA (0-100%)
Trigger	Trigger 1: Magnetic or Optical. Pull-up resistor with switch to ground.
	Trigger 2: Rotary. Pulse width modulated 0-5V.
Serial communications	RS232C protocol to printer and LOADRITE™ Data Module.

13.7 CLOCK

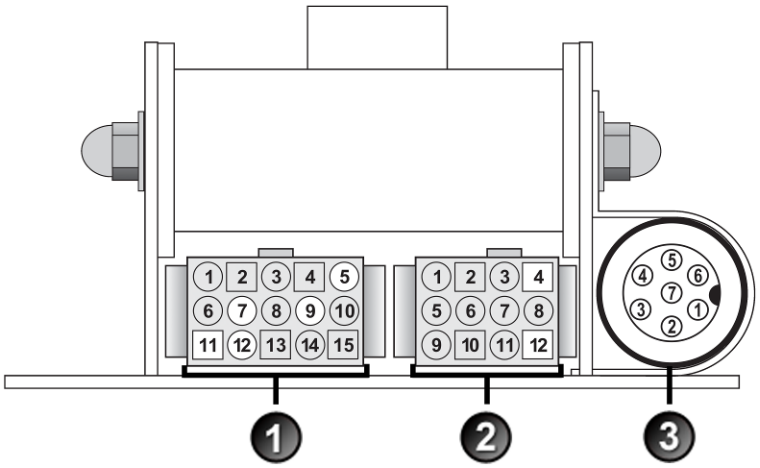
Built-in clock	Hours, minutes, day, month, year.

13.8 AVAILABLE ACCESSORIES

LOADRITE™ printer	Dot matrix, 24 character columns.
Data Module	Provides electronic data collection.
Remote add button	For operator convenience.
Interlock system	To disable weighing under defined machine conditions.

A number of additional operating features can be enabled at the time of installation.

13.9 OUTPUT/INPUT CONNECTIONS



	Connection
1	Power / Control
2	Printer / Data Logger
3	Pressure Transducer

13.9.1 Power / Control

1. Negative supply (ground)	2. Positive supply
3. Remote button 2 (clear)	4. Remote button 1 (add)
5. Tilt sensor 1	6. Tilt sensor 3
7. Tilt sensor 2	8. +VAUX
9. Digital out	10. Boom position
11. Stick position	12. CAN hi
13. CAN lo	14. +V raw
15. Ground output	

13.9.2 Printer / Data Logger

1. Negative supply to printer	2. Positive supply to printer
3. +VAUX	4. RX2
5. TX2	6. Printer RS232 output
7. Printer busy input	8. LOADRITE™ Data Module RS232 input
9. LOADRITE™ Data Module RS232 output	10. Ground output
11. Boot	12. N.C.

13.9.3 Pressure Transducer

1. +VAUX	2. Return pressure input
3. Transducer current input	4. +VAUX
5. Lift pressure input	6. Shield
7. Ground	

14. APPENDIX B: SPAN CALIBRATION ADJUSTMENT

This function allows small changes to be made to the LOADRITE™ Weighing System calibration if the bucket is modified, or if no accurate test weight was available when the LOADRITE™ Weighing System was calibrated at installation time.

The adjustment is carried out by entering the total weight recorded at a weighbridge (scale house) and the corresponding total provided by the LOADRITE™ Indicator.

To perform the adjustment, a security access code must be obtained from your LOADRITE™ installer.

CAUTION The LOADRITE™ Weighing System alters its calibration every time this function is used. It is important that this function is only used once with a given set of data. If the same weights are entered again, the LOADRITE™ Weighing System will over-correct and its accuracy will be seriously impaired.

1) Press .

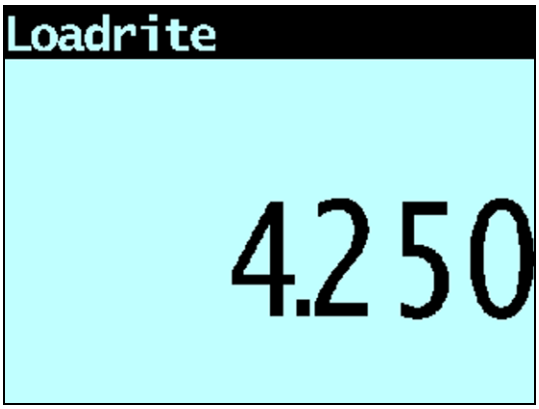
2) Select **Setup...**, then press .

3) Enter the security access code provided by the LOADRITE™ installer, then press .

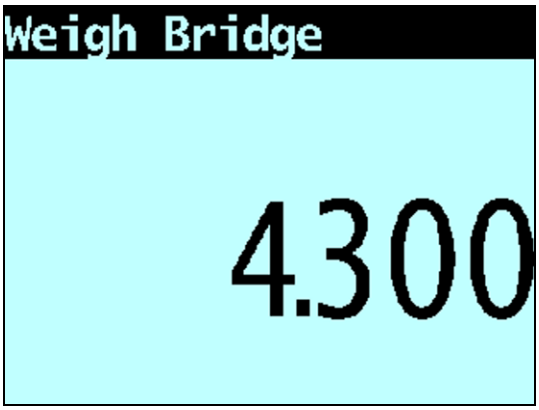
4) Select **Calibration Menu**, then press .
The *Calibration Menu* will display.

5) Select **Adjust Span**, then press .

6) The **Adjust Span** message will display briefly and then the *LOADRITE Adjust Span* screen will display.



7) Enter the total weight provided by the LOADRITE™ Indicator, then press .



8) Enter the total weight provided by the weighbridge, then press .

9) The LOADRITE™ Indicator briefly displays the **Calibration Updated** message, and then returns to the *Calibration Menu*.

14.1 CHECKING THE ADJUSTMENT

The *Span Calibration Adjustment* can be checked by obtaining and comparing new LOADRITE™ and weighbridge values. If necessary, the *Span Calibration Adjustment* can be performed again using the new data.

IMPORTANT: All trucks and trailers should have tare weights confirmed for all loads to be checked. This ensures that a true weight can be established. Avoid split-weighing the truck and trailer.

15. APPENDIX C: ERROR MESSAGES

Error messages may be displayed for a variety of reasons as detailed below.

15.1 BOUNCING LOAD

If the lift arms are bouncing significantly while weighing, an error occurs. This can happen if, for example, the loader is driven over uneven ground while lifting the load.

Depending on the installation of the particular LOADRITE™ Weighing System, there are two possibilities:

- No weight is displayed and therefore there is no weight to add. Repeat the lift.
- *Weighing Error* is turned off and a weight is displayed. Add the weight to the total (bearing in mind that the weight measurement is not reliable) or ignore this weight and repeat the lift smoothly.

15.2 BUCKET BACK?

The bucket must be crowed fully back for each lift. The **Bucket back?** message will be displayed if the LOADRITE™ Weighing System has not detected that the bucket is fully crowded back.

Note: This message should only be displayed when using a Legal for Trade scale.

15.3 BUCKET EMPTY?

If the bucket is zeroed and there is some residue in the bucket, the LOADRITE™ Weighing System will detect how much is in the bucket. If the contents are less than 5% of the full bucket capacity, the LOADRITE™ Weighing System will zero the bucket. If the weight of product in the bucket is within 5-10% of full bucket capacity, the Indicator will display the **Bucket Empty?** message to confirm the zero.

- To zero the bucket, press  .

15.4 BUCKET NOT BACK

The bucket must be crowed fully back for each lift. The **Bucket not back** message will be displayed if the LOADRITE™ Weighing System has not detected that the bucket is fully crowded back.

Note: This message should only be displayed when using a Legal for Trade scale.

15.5 CHECK POWER

The power supply has reached an unstable level. Check that the power source is stable and between +12V and +32V.

15.6 CHECK MAG/OPT

There is a fault in the magnetic or optical trigger or the cable that connects the trigger. If using an optical trigger, check that the lens is clear and dust-free.

15.7 CHECK ROTARY

There is a fault in the rotary trigger or the cable that connects the trigger. Check that the trigger is still securely mounted and that the trigger finger has not been damaged.

15.8 CHECK SCALE#

This message displays when is pressed if the Indicator is set up for use with multiple scales.

If the weight is greater than 10% of full bucket capacity for the selected scale number, the screen displays **Check Scale#** message. The operator needs to ensure the correct scale number is selected for the attached implement, as implements differ considerably in weight.

15.9 CHECK TILT

There is a fault in the tilt sensor used for ground slope compensation or the cable that connects the sensor. Check that the tilt sensor is still securely mounted and that the cable has not been damaged.

15.10 CHECK TRANSDUCER

There is an error in the pressure transducer signal input. This indicates a fault in either the pressure transducer or the cable that connects the transducer.

15.11 CHECK ZERO

The operator is automatically reminded to zero the bucket.

15.12 LIFT UNDER RANGE

The lift pressure was too low. This indicates a fault in either the pressure transducer or the cable that connects the transducer.

15.13 NEED EMPTYING

The bucket must be crowed fully forward to ensure that all product has been emptied. The **Need Emptying** message will be displayed If the LOADRITE™ Weighing System has not detected that the bucket has been crowded fully forward.

Note: This message should only be displayed when using a Legal for Trade scale.

15.14 NO LOCK

The interlock was not closed when lifting the load. The interlock must be closed (or the bucket must be fully rolled back) while lifting the load. No weight is displayed and therefore there is no weight to add.

15.15 NUM ATTEMPTS EXCEEDED

This message displays if the number of attempts to perform a check zero is exceeded when FACT is activated. The number of attempts is set during installation.

15.16 OVER TARGET

Adding the lifted weight will exceed the target value. The lifted weight can still be added by pressing .

Note: The *Auto-add* function will not automatically add over-target weight.

15.17 OVERLOAD

The lifted weight exceeds the full scale (capacity) setting. If the *Overload Error* is set during installation, overloaded weight cannot be added.

15.18 POOR LIFT

If a weighing error is close to, but not greater than, the tolerance limit, the LOADRITE™ Indicator displays this warning message. The weight can be added as usual.

15.19 PITCH TOO HIGH

The angle of the loader is at an unsafe pitch (front/back tilt) while weighing. If this message is displayed, the weight cannot be added. The safe pitch angle is set during installation.

Note: This message should only be displayed if the Ground Slope Compensation module is installed.

15.20 PRINTER DISABLED

Print function has been disabled at installation.

15.21 PRINTER ERROR

There is a fault in the printer. Check that the printer is online and has paper.

15.22 RETURN UNDER RANGE

The return pressure was too low. This indicates a fault in either the pressure transducer or the cable that connects the transducer.

15.23 ROLL TOO HIGH

The angle of the loader is at an unsafe roll (left/right tilt) while weighing. If this message is displayed, the weight cannot be added. The safe roll angle is set during installation.

Note: This message should only be displayed if the Ground Slope Compensation module is installed.

15.24 SPEED CHANGED

For accurate measurement, the speed of raising the lift arms must be smooth, without acceleration or deceleration. The LOADRITE™ Weighing System can detect changing speed as the arms go past the Trigger Point. Depending on the installation of the LOADRITE™ Weighing System, there are two possibilities:

- No weight is displayed, and therefore there is no weight to add. Repeat the lift and avoid accelerating and decelerating at or near the past the Trigger Point.
- A weight is displayed. Add weight to the total (acknowledging that the weight measurement is not reliable) or ignore this weight and repeat the lift smoothly.

15.25 SPEED TOO HIGH

This message displays if the speed of raising the arms is too fast and exceeds predefined limits.

Lift the arms again slower. If the message displays again, there may be a fault in the system. The LOADRITE™ Weighing System should be checked and, if necessary, re-calibrated.

15.26 TILT TOO HIGH

The angle of the loader is at an unsafe roll or pitch while weighing. The **Tilt Too High** message accompanies the specific roll or pitch error at the top bar of the display.

15.27 TOO HEAVY, ZERO ABORTED

If the weight of product in the bucket is greater than 10% of full bucket capacity when is pressed, the screen displays this message and does not alter any settings. This prevents any accidental zeroing of valid weights.

Note: If the bucket is empty and the message still occurs, there may be a fault in the system. The LOADRITE™ Weighing System should be checked and, if necessary, re-calibrated.

15.28 WARM-UP LIFT

This message displays if the LOADRITE™ Indicator has been turned off for more than one hour, prompting a warm-up lift.

16. APPENDIX D: GLOSSARY

A

Angle Sensor

An optional sensor included in the Ground Slope Compensation Kit which measures the tilt angle of the loader and compensates for the angle in calculations of load weight. Can be used in Legal for Trade software.

- See also *Ground Slope Compensation Kit* and *Legal for Trade*.

Auto-add

Automatically adds the lifted weight to the total weight every time a load is lifted.

Auto-tare

A feature that allows you to pre-program truck tare weights. The operator can then select a truck on the Indicator and the tare weight will be displayed.

Auto-target

A feature that allows you to select target weights for each truck. When a truck is selected on the Indicator, the target weight for that truck will automatically be used.

B

Batch Mode

A mode that allows the operator to track the amount required of each product when working to a set recipe, based on the total batch target. Before loading, the operator enters the total batch target and the Indicator will calculate how much of each product is required to reach the target.

Blend Mode

A mode that allows the operator to track the amount required of each product when working to a set recipe, based on the number of bucket loads.

Bucket

The attachment on the loader that holds the bulk product/material or load while it is being transferred.

C

Check Zero

The message displayed periodically to remind the operator to use the *Zero* function to set the weight of the bucket to **0**.

- See also *Zero/Zeroing*.

D

Data Field

Customizable fields that allow you to label your weighing data to help you track and monitor your output, for example, by truck, customer, or docket.

Data Module

A memory device which connects to the Indicator to store payload and related data. The Data Module can then be connected to a PC running MMS software to transfer the data for the creation of productivity reports.

Display

A screen with adjustable backlighting for night and low-light operations. Used to display weight information and messages.

Docket

A printed record of a load.

- May also be known as *Ticket*.

G

Grand Total Mode

The mode used when loading different products to achieve a total weight. The grand total indicates the total weight of products loaded.

Ground Slope Compensation Kit

An upgrade kit required to enable the Ground Slope Compensation function on certain models of LOADRITE™ Indicator.

- See also *Angle Sensor* and *Legal For Trade*.

I

Indicator

The LOADRITE™ user interface installed in a loader or excavator which the operator uses to record bucket weights. When used with a belt scale, the term *Integrator* should be used.

Note: May also be known as *Console*, *Module*, *In-Cab Console*, *Loadrite*, *Loadrite Console*, *Head Unit*, *Clock*, *Computer*, *Scale*; however *Indicator* is the preferred term.

Interlock

Sensors which detect the back and forward positions of the bucket. Can be used in *Legal for Trade* software, where the bucket must be fully rolled back for weighing and rolled forward for emptying.

- See also *Legal For Trade*.

K

Keypad

A set of numeric or alphanumeric buttons on the Indicator which allow you to enter numbers, letters and other characters. Depending on the Indicator model, *Keypad* may also refer to other buttons along-side the numeric or alphanumeric buttons.

L

Legal for Trade

Certification by a local weights and measures authority to legally sell product from your loader or other scale.

Load

The amount of product added to a truck, or the act of adding product to a truck.

Loader

The heavy equipment machine or vehicle that is primarily used to load product onto a vehicle such as a truck, hopper, rail-car, etc.

- May also be known as a *front-end loader*, *loading machine*, *loading vehicle*, *wheel loader*, etc.

LOADRITE™ Weighing System

Refers to the entire LOADRITE™ hardware and software weighing system installed at a site, including the Indicator, transducers, sensors, modem, MMS or Insight™ software, etc.

Long Total

The total amount of product loaded over a long period, such as a shift or day.

- See also *Short Total*.

M

MMS

Material Management System. PC software used to track productivity and create reports from data collected by LOADRITE™ Indicators.

Modem

A device used to transfer live payload and other data from the Indicator to a PC with MMS installed. There are two classes of modem:

- Cellular model, for example LD311
- Radio modem, for example LD100.

O

Operation Mode

Any mode that relates to the running total of accumulated weights, for example, *Total* or *Target* mode.

Operator

The person operating the loader.

- Also known as *Loader Driver or Loader Operator*.

P

Pressure Transducer

A pressure sensor connected to the loader’s hydraulic system in order to measure the hydraulic pressure required to lift a load.

Primary Product

The first item in a product recipe is referred to as the primary product.

Printer

An optional accessory mounted in the loader cab. It provides a paper record of the weighing information collected by the Indicator.

- See also *Docket* or *Ticket*.

Product

Material that comprises a load. For example, salt, coal, etc.

R

Recipe

Specified quantities of different materials which together make up a product. A recipe is required when working in *Batch Mode*, *Blend Mode* or *Mix Mode*.

Remote-Add Button

An additional **Add** button which is mounted in close proximity to the loader controls and performs the same function as the **Add** button on the LOADRITE™ Indicator. The button enables the operator to add a load without having to remove their hands from the loader controls.

S

Short Total

The running total amount of product loaded onto a truck or carriage. The Short Total amount will continue to accumulate until it is cleared using the *Clear* function.

Split Mode

The mode used when loading a truck with multiple trailers where individual totals are required for the truck and each individual trailer.

Standby

A low-power mode which the Indicator should be set to between jobs, for example, when the operator is moving the loader and does not need to weigh a load.

T

Tare Mode

A mode that allows tare weights to be used when calculating load weight. There are two options for using *Tare* mode:

- The Indicator automatically deducts the tare value to give the net lifted load weight. For example, the tare weight could be the weight of a pallet.
- The Indicator adds the tare value to the total load weight. For example, the tare value could be the weight of the truck which is added to the total load to ensure that the vehicle's maximum load is not breached.

- See also *Operation Mode*.

Target Mode

A mode used to enter a predetermined product target weight. The Indicator will calculate and display the amount of product required to reach the target. For each lift, the lift weight will be subtracted from the displayed amount until the target weight is reached.

Ticket

A printed record of a load.

- May also be known as *Docket*.

Tip-off

The final bucket load adjustment, which allows you to tip a measured amount of the product from the final bucket to ensure an exact target weight is reached.

Transducer

- See *Pressure transducer*.

Trigger

A sensor which responds to the position of the lift arms, and informs the Indicator when to take a weight reading. LOADRITE™ weighing systems have three types of trigger: optical, rotary and magnetic.

Trigger Point

A point (or series of points) in the position of the lift arms where a weight reading is taken.

W

Weigh Mode

Any mode that gives the operator different options to weigh the material in the bucket, for example *Tip-off* or *Tare mode*.

- See also *Operation Mode*.

Weighbridge

A platform scale for weighing vehicles.

- Also known as *Ground Scale*, *Scale House* and *Truck Scale*.

Z

Zero/Zeroing

Sets the weight of the bucket to **0**. Zeroing is required to reset the weight of the bucket from time-to-time. This is to avoid inaccurate readings due to the build-up of material in the bucket which can occur when operators are dealing with wet or sticky materials.

- See also *Check zero*.

17. APPENDIX E: LEGAL INFORMATION

Disclaimer

Actronic Ltd operates a policy of on-going development. Please note that while every effort has been made to ensure that the data given in this document is accurate, due to continued product development, the information, figures, illustrations, tables, specifications, and schematics contained herein are subject to change without notice. Actronic Ltd does not warrant that this document is error-free. The screenshots and other presentations shown in this manual may differ from the actual screens and presentations generated by the actual product. All such differences are minor and the actual product will deliver the described functionality as presented in this document in all material respects. If you find any errors in the document, please report them to us in writing.

Actronic Ltd assumes no liability in connection with the use of any LOADRITE™ branded product.

Actronic Ltd is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

Compliance

Domain	Applicable Standard
Immunity Standards (industrial)	IEC 61000-4-3 (ed1.2) Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test (80% 1kHz Amplitude Modulated) from 80MHz to 1GHz 10V/m IEC 61000-4-3 (ed1.3) Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test (80% 1kHz Amplitude Modulated) from 1.4GHz to 2GHz 3V/m IEC 61000-4-3 (ed1.4) Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test (80% 1kHz Amplitude Modulated) from 2GHz to 2.7GHz 1V/m
Conducted	IEC 61000-4-6 (ed2.1) Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields
Fast Transients	IEC 61000-4-4 (ed2.1) Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test +/1KV (5/50 Tr/Th ns - 5kHz repetition)
ESD	IEC 61000-4-2 Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test +/-4kV / Electrostatic Air Discharge +/-8kV
Electromagnetic compatibility (EMC)	EN/IEC/ASNZS 61000-6-2:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments EN/IEC 61000-6-4:2005 Electromagnetic compatibility (EMC) - Part 6-4: Generic Standards - Emission standard for industrial environments ANSI C63.4:2003 FCC Part 15 (A and B) - Radio Frequency Devices

CE

Products with the CE marking comply with the Electromagnetic Compatibility Directive (2004/108/EC) issued by the Commission of the European Community. Compliance with this directives implies conformity to the following European Standards:

EN 61000-6-2:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
EN 61000-6-4:2005 Electromagnetic compatibility (EMC) - Part 6-4: Generic Standards - Emission standard for industrial environments

The Indicator is fully EMC (Electro-Magnetic Compatibility) compliant and is CE marked accordingly. A Declaration of Conformity, in accordance with the EMC Directive 89/336/EEC (and as amended) is available from Actronic Ltd on request: info@loadritescales.com

Actronic Ltd cannot be held responsible for modifications made by the User and the consequences thereof, which may alter the conformity of the product with CE marking.

Hereby, Actronic Ltd, declares that this LOADRITE™ L2180 is in compliance with the essential requirements and other relevant provisions of Directive 2004/108/EC.

The Indicator is compliant with RoHS Directive 2002/95/EC which sets limits for the use of certain restricted hazardous substances. This directive states that “from 1st July 2006, new electrical and electronic equipment put on the market does not contain lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE)”.

This device complies with part 15 of the FCC Rules and Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. This Notice is being provided in accordance with California's Proposition 65.

Disposing of the LOADRITE™ Indicator

This electronic product is subject to the EU Directive 2002/96/EC for Waste Electrical and Electronic Equipment (WEEE) which requires the separate collection, treatment, recycling and environmentally-sound final disposal of waste of electrical and electronic equipment. As such, this product must not be disposed of at a municipal waste collection point.

Please refer to local regulations for directions on how to dispose of this product in an environmentally friendly manner.