Avery Weigh-Tronix

ZM510

Indicator

User Instructions

UK & ROW

AWT35-501342
Issue AD

Table of Contents

1 General information and warnings

1.1 About this manual

This manual is divided into chapters by the chapter number and the large text at the top of a page. Subsections are labeled as shown by the 1.1 and 1.1.1 headings. The names of the chapter and the next subsection level appear at the top of alternating pages of the manual to remind you of where you are in the manual. The manual name and page numbers appear at the bottom of the pages.

1.1.1 Text conventions

Key names are shown in **bold** and reflect the case of the key being described. If a key has a dual function it may be referred to by its alternate function.

Displayed messages appear in ***bold italic*** type and reflect the case of the displayed message.

Annunciator names appear as *italic* text and reflect the case of the annunciator.

1.1.2 Special messages

Examples of special messages you will see in this manual are defined below. The signal words have specific meanings to alert you to additional information or the relative level of hazard.

CAUTION!
This is a Caution symbol.
Cautions give information about procedures that, if not observed, could result in damage to equipment or corruption to and loss of data.

NOTE: This is a Note symbol. Notes give additional and important information, hints and tips that help you to use your product.

1.2 Installation

NO USER SERVICEABLE PARTS. REFER TO QUALIFIED SERVICE PERSONNEL FOR SERVICE.

1.2.1 Safe handling of equipment with batteries

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

ATTENTION: Il y a danger d'explosion s'il y a remplacement incorrect de la batterie, remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur. Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

1.2.2 Wet conditions

Under wet conditions, the plug must be connected to the final branch circuit via an appropriate socket / receptacle designed for washdown use.

Installations within the USA should use a cover that meets NEMA 3R specifications as required by the National Electrical Code under section 410-57. This allows the unit to be plugged in with a rain tight cover fitted over the plug.

Installations within Europe must use a socket which provides a minimum of IP56 protection to the plug / cable assembly. Care must be taken to make sure that the degree of protection provided by the socket is suitable for the environment.

1.3 Routine maintenance

IMPORTANT: This equipment must be routinely checked for proper operation and calibration.
Application and usage will determine the frequency of calibration required for safe operation.

Always isolate the indicator from the power supply before starting any routine maintenance to avoid the possibility of electric shock.

1.4 Cleaning the machine

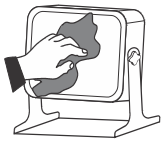


Table 1.1 Cleaning DOs and DON'Ts

DO	DO NOT
Wipe down the outside of standard products with a clean cloth, moistened with water and a small amount of mild detergent	Attempt to clean the inside of the machine
	Use harsh abrasives, solvents, scouring cleaners or alkaline cleaning solutions
Spray the cloth when using a proprietary cleaning fluid	Spray any liquid directly on to the display windows

1.5 Training

Do not attempt to operate or complete any procedure on a machine unless you have received the appropriate training or read the instruction books.

To avoid the risk of RSI (Repetitive Strain Injury), place the machine on a surface which is ergonomically satisfactory to the user. Take frequent breaks during prolonged usage.

1.6 Sharp objects

Do not use sharp objects such as screwdrivers or long fingernails to operate the keys.

1.7 FCC and EMC declarations of compliance

United States

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Canada

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Classe A prescrites dans le Règlement sur le brouillage radioélectrique edicté par le ministère des Communications du Canada.

European Countries

WARNING: This is a Class A product. In a domestic environment, this product may cause radio interference in which the user may be required to take adequate measures.

2 Introduction

The ZM510 indicator is a powerful, programmable indicator with a default vehicle weighing application. This manual will explain operation of the indicator and the Weighbridge application.

This indicator is suitable for the office, dusty, wet or high pressure, heavy washdown and outdoor environments. It is housed in a IP69K stainless steel desktop body. It has a high contrast, graphic display for text and graphic messages appropriate to the function of the program.

The ZM510 indicator can support up to four weighbridges with a maximum total of 24 - 350 ohm load cells. The indicators require 90 VAC - 264 VAC, 50 or 60 Hz or 12-36VDC. The standard indicator connectivity includes two USB Host, three serial ports and an Ethernet port.

Available options include:

- Analog Output
- Current Loop/RS485/RS422
- USB Device
- DeviceNet™
- ProfiBus®
- RM300 WiFi module & antenna
- PDIO Card (*PWM, pulse counting, SCR module)*
- 2nd Scale Input 5VDC Excitation
- Z series option expansion card - RS232
- STVS card
- 2nd Scale Input 10 VDC with STVS
- External I/O Interface (for existing GSE or 1310 I/O cards)
- AC input, 4 Inputs (120-240VAC)
- DC input, 4 inputs(4-30VDC)
- AC output, 4 relays (20-240VAC)
- DC output, 4 relays (3-60VDC)
- STVS (Severe Transient Voltage Suppressor)
- ZT/ZM Interface Card with STVS

The indicator also has three logic level inputs with configurable functions and three setpoint outputs. See the Specification literature for a full list of specifications.

Figure 2.1 shows the front panel of the ZM510 indicator which consists of the keys and the graphic display.

Figure 2.1 ZM510 front panel

Never press a key with anything but your finger. Damage to the overlay may result if sharp or rough objects are used.

2.1 Front Panel Keys

The key functions are listed below.

	Press the **TARE** key to perform a pushbutton tare function. Acts as an up arrow key for menu navigation. *This key is not active in the Weighbridge application.*
	Press the **SELECT** key to toggle between the active display values. Acts as a down arrow key for menu navigation.
	Press the **ZERO** key to zero the display. Acts as an ENTER key to accept a displayed value or function in setup mode.
	Press the **PRINT** key to send information to a peripheral device through a configured communications port. Acts as a left arrow key for menu navigation. *This key is not active in the Weighbridge application.*
	Press the **UNITS** key to scroll through the available units of measure while in normal operating mode. Acts as a right arrow key for menu navigation. *This key is not active in the Weighbridge application.*
	Use the **F1** through **F5** keys as defined by the label above each one on the display. The functions change according to program need.
	Use the alphanumeric keypad for entering text or numbers.
	Press the **CAPS** key to make one upper case letter. Press and hold the key to turn on the CAPS lock. *CAPS* will be highlighted when the CAPS lock is on. Press **CAPS** again to return to lower case characters.
	Press the **Num Lock** key to lock the number key function to type numbers only.
	Press the **ENTER** key to accept a displayed choice. In setup mode it will accept a displayed choice or access a lower menu level.
	Press the **START** key to start a process defined by the active program. *This key is not active in the Weighbridge application.*
	The **SETUP** key can be used to perform custom application functions. It can also be used to view the password entry screen for menu access.
	Press the **STOP** key to stop a process defined by the active program. *This key is not active in the Weighbridge application.*

2.2 Powering up a ZM510 indicator

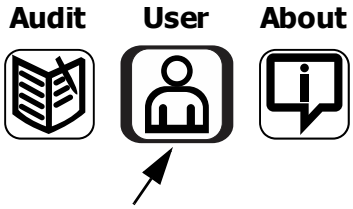
The indicator is always active as long as power is received. Power must be 90-264 VAC with a frequency of 50 or 60 Hz, or 12-36 VDC.

2.3 Menu navigation

The menus used to configure the ZM510 are accessed with passwords. In general, a menu is made up of a group of top level items, sub levels under each of those and lists of items to view or configure. There are variations on this theme. Sometimes there may be no sub level or there maybe two sub levels before you get to a list of items to set.

You will see on-screen lists with instructions on how to choose and set an item in each menu list. On-screen prompts guide you as you move through the menus.

When icons are on screen the bold box around an icon means it is the highlighted icon. See the example below.



When a text list appears on screen the highlighted item is shown by a green bar over the text. See the example below.

The main menu is made up of the User, About and Audit menus. See Chapter 4 for complete information.

2.3.1 Escaping or exiting from a menu

In any menu you will have either **UP** or **ESC** keys listed on-screen.

If **ESC** is listed use it until it disappears then use the **UP** key until you are asked if you want to save any changes or not. Highlight your choice and press **ENTER** to accept.

The indicator will reboot and return to the startup screen.

2.4 Adjusting Screen Contrast

To decrease or increase the screen contrast, press and hold the **Units** key and press the **Tare** (Up Arrow) or **Select** (Down Arrow) key repeatedly.

3 Weighbridge application

The ZM510 comes with a Weighbridge application running as the default program. There are two types of weighing that can be done within this application:

- IN/OUT weighing — IN/OUT weighing enables the indicator to calculate the net weight of goods on a vehicle after an IN and an OUT weighment.

  There are three slightly different modes of operation depending on the configuration of your indicator. The default is called the ***Stored and Printed*** mode and that is what is explained in the IN/OUT step by step process. See ***MODE*** on page 29 for more information on the other modes.

- PUBLIC weighing — In PUBLIC weighing, a vehicle can be weighed once and the information, such as a transaction number and weight, can be stored in the transaction database.

This chapter will explain the typical weighing process for each.

Figure 3.1 shows the default screen on power up.

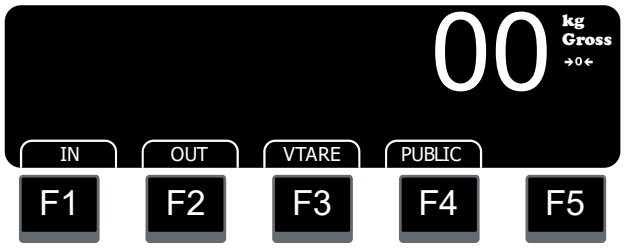


Figure 3.1 Default screen for the Weighbridge application

Use the **VTARE** key to set a vehicle tare using an entered value or the live weight. This becomes the tare value in the database for that vehicle. See the section *Using the VTARE (vehicle tare) key on page 19*.

3.1 IN/OUT weighing (‘Stored and Printed’ mode)

3.1.1 IN/OUT process overview

When a vehicle comes onto the weighbridge for the first time, whether it is loaded or empty, a vehicle registration is chosen from a database or added as a new vehicle, an IN weight is taken and the transaction is printed.

When the same vehicle comes across the weighbridge after taking on a load or dumping a load, an OUT weight is taken. The resulting difference in weight is printed and/or stored in a database along with other information about the weight, vehicle, or material.

3.1.2 Step by step

1. Zero the scale if necessary by pressing the **ZERO** key. When the vehicle drives onto the weighbridge, press the **IN** key …

   The display may show a list of vehicle registrations stored in the database. See steps 2a, 2b and Figure 3.2.

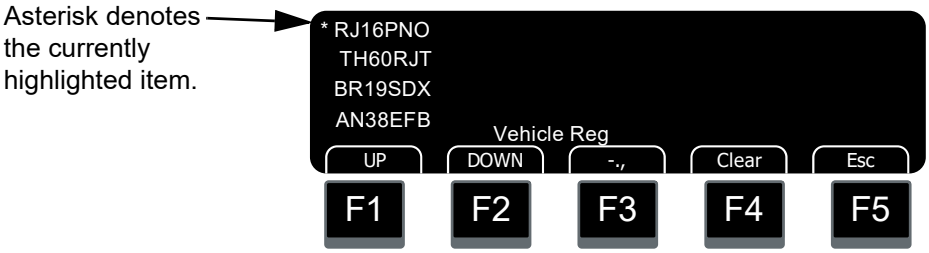


Figure 3.2 IN screen, Vehicle Registration

2a. If no database exists or if this is a new vehicle, type in the vehicle ID and press **ENTER (⏎)** to add it to the database.

*Remember that when you are in the database screens you must use the **ENTER** (⏎) key located at the lower right of the keyboard and not the **ENTER/ZERO** key.*

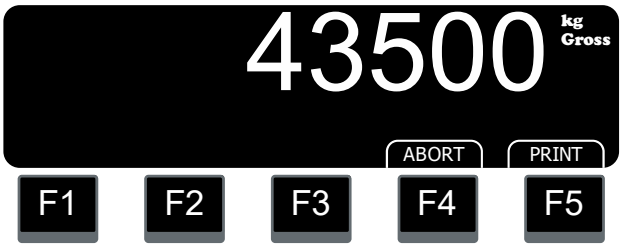
Vehicle IDs can be up to 16 characters.

OR

2b. If the vehicle exists in the database, press the **UP** or **DOWN** key to step through the list of vehicle IDs or press the first letter or number of the vehicle ID number on the keypad to quickly move to that section of the database list.

Once the correct vehicle registration is highlighted by the asterisk (*), press the **ENTER** key …

The weight is displayed with two keys **ABORT** and **PRINT**.



*The **-.,** key will insert a dash, a period or a comma with each successive press of the key.*

*Press the **Num Lock** key to enter numbers and press it again to stop entering numbers.*

3a. Press **ABORT** to abort the weighment and the screen will return to the default screen and no IN weight is stored.

OR

3b. Press **PRINT** to save the following list of information to the database and to send the configured information to a suitable printer. The information in this list is available for printouts, if so configured.

- VehicleID
- Weight
- Transaction type (In / out / public / axle, stored tare)
- Net Weight Adjustment
- Transaction ID
- Haulier Name
- Supplier Name
- Customer Name
- Product Name
- Time
- Date

Figure 3.3 shows an example of the default IN print format (#15).

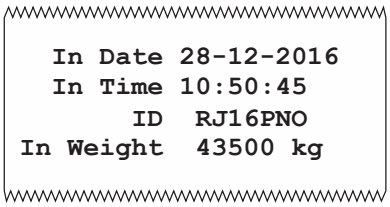


Figure 3.3 IN ticket print format

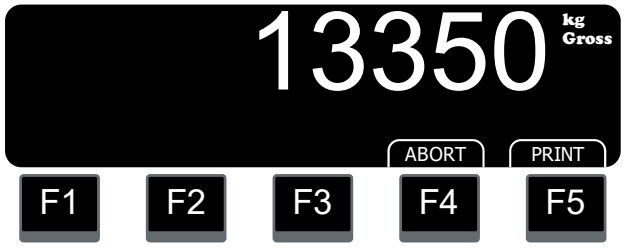
4. When the vehicle comes back to the weighbridge, be sure to **ZERO** the scale if necessary, have the vehicle drive on the weighbridge and press the **OUT** key to take the second weight …

A list of vehicles that have had first weighments are displayed.

5. Press the **UP** or **DOWN** key to step through the list of vehicle IDs or press the first letter or number of the vehicle ID number on the keypad to quickly move to that section of the database list.

Once the correct vehicle registration is highlighted by the asterisk (*), press the **ENTER** key …

The weight is displayed with two softkeys **ABORT** and **PRINT**.



Press **ABORT** to abort the weighment and the screen will return to the default screen. No OUT weight is stored but the IN weight is still valid.

OR

Press **PRINT** to save the information to the database and to send the configured information to a suitable printer. See the an example of the OUT print format (#16) in Figure 3.4.

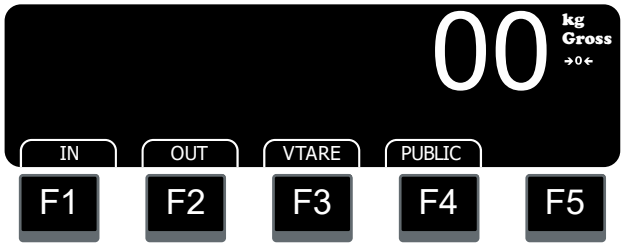
```
     In Date  28-12-2016
     In Time  10:50:45
    Out Date  2016-12-14
    Out Time  10:56:04
          ID   RJ16PNO
Transaction      51

       Gross    43500 kg
        Tare    13350 kg
         Net    30150 kg
```

Figure 3.4 OUT ticket print format

The IN weight is deleted when the OUT weighment is finished.

6. The screen returns to the default screen, see below, and this closes out the process for this vehicle. Repeat for other vehicles.



3.2 PUBLIC weighing

If a vehicle comes across the weighbridge that does not need a weighment stored in the database, use the **PUBLIC** key. Below is the process.

Figure 3.5 shows the default screen on power up.

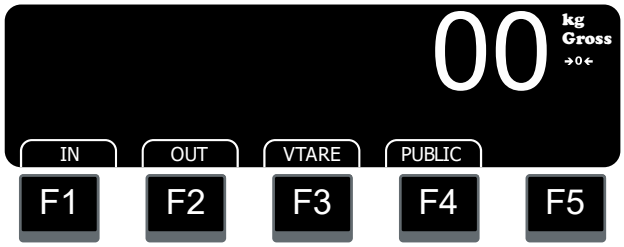


Figure 3.5 Default screen for the Weighbridge application

1. Zero the scale if necessary by pressing the **ZERO** key. When the vehicle drives onto the weighbridge, press the **PUBLIC** key …

   The display may show a list of vehicle registrations stored in the database. See steps 2a, 2b and Figure 3.6.

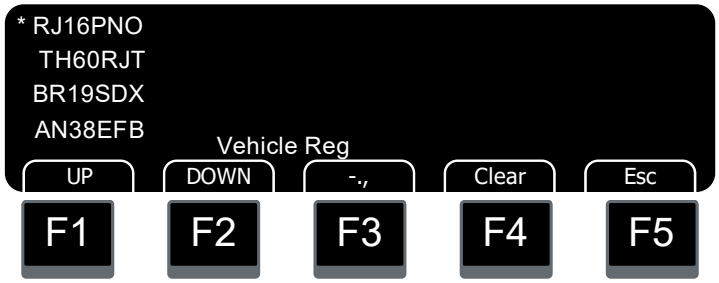


Figure 3.6 Vehicle Registration screen

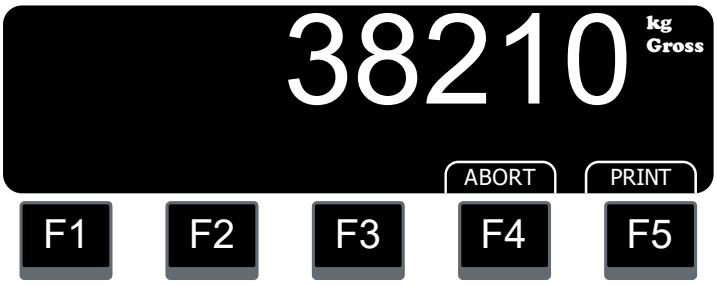
2a. If no database exists or if this is a new vehicle, type in the vehicle ID and press **ENTER** to add it to the database. Vehicle IDs can be up to 16 characters.

OR

2b. If the vehicle exists in the database, press the **UP** or **DOWN** key to step through the list of vehicle IDs or press the first letter or number of the vehicle ID number on the keypad to quickly move to that section of the database list.

Once the correct vehicle registration is highlighted by an asterisk (*), press the **ENTER** key …

The weight is displayed with two keys **ABORT** and **PRINT**.



*The **-.,** key will insert a dash, a period or a comma with each successive press of the key.*

*Press the **Num Lock** key to enter numbers and press it again to stop entering numbers.*

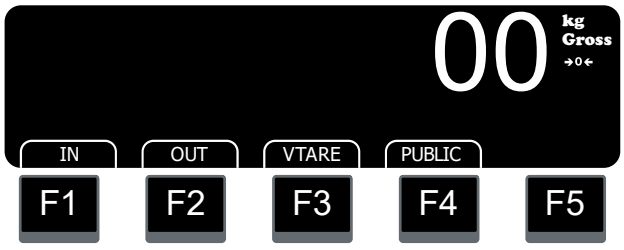
3a. Press **ABORT** to abort the weighment and the screen will return to the default screen.

OR

3b. Press **PRINT** to print the information to a suitable printer. The vehicle ID will be part of the printed information but the ID is not stored. See a sample of the default print format (#13) below.

```
  -- PUBLIC WEIGHT -
       Date 29-12-2016
       Time 12:57:02
         ID RJ16PNO
Transaction 51
     Weight 38210    kg
```

The display returns to the startup screen. See example below.



3.3 Using the VTARE (vehicle tare) key

This key makes setting the tare for vehicles quick and easy. The **VTARE** key allows you to change or delete a tare in the vehicle database or enter a new tare, for example if you buy a new vehicle for the fleet. You can do this in two ways:

- Enter, via the keypad, a known tare for a vehicle which becomes the tare of record in the database.
- Use the live weight of an empty vehicle to capture the tare weight which becomes the tare of record in the database.

3.3.1 Modifying the vehicle tare value in the database

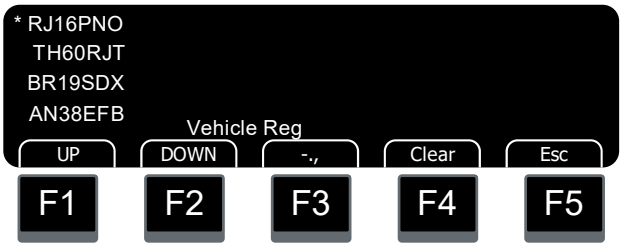
When the vehicle database is set up, each registered vehicle has a tare in the database. If a tare needs to be modified, follow these steps:

1. Press the **VTARE** key …

   A password screen appears.

2. Enter the database password (be sure NUM LOCK is active), 1234, and press **ENTER** …

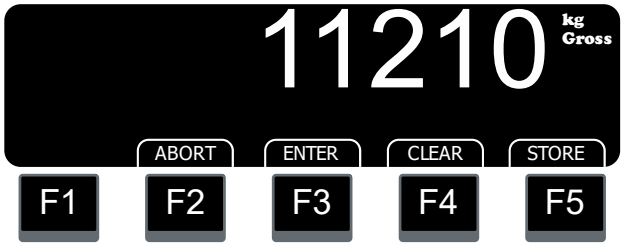
   The vehicle registration list appears. See example below:



Be sure to turn off NUM LOCK when done entering numbers.

3. Use the **UP** or **DOWN** key to scroll through the list of vehicle IDs or press the first letter or number of the vehicle ID number on the keypad to quickly move to that section of the database list. Once the correct vehicle registration is highlighted by an asterisk (*), press the **ENTER** key …

   The current live weight is shown and four softkeys appear: **ABORT**, **ENTER**, **CLEAR** and **STORE**.



Your choices are to do either step 4 or 5 or 6.

4a. To manually modify the tare value, press the **ENTER** key …

The current tare value appears in a weight entry screen.

4b. Be sure NUM LOCK is on and key in a new vehicle tare weight and press **ENTER** …

The default startup screen is displayed.

OR

5. Press **CLEAR** to clear the current vehicle tare weight.

OR

6. Press **STORE** to accept the displayed weight value as the tare weight.

Be sure to turn off NUM LOCK when done entering numbers.

4 Menus

The ZM510 three user accessible menus:

- **User** menu - Use to set Time, Date, Site ID, Diagnostics check Seal status and check Archive information.
- **About** menu - Use to see information on the software, firmware, application, serial number, options, ethernet and downloads
- **Audit** menu - Use this to check and/or print the calibration and configuration counters.

The password for these menus is 111. Follow these steps to access and use these menus.

1. Press and hold the **SETUP** key until …

   the password entry screen appears.

2. Key in 111 and press the **ENTER** key …

   This screen is displayed:

   The bold box around the center image means that is the highlighted menu item.

3. Use the **Left** and **Right** keys to highlight the menu you want to enter and press the **ENTER** key. Below are the explanations for these menus.

4.1 User menu

When the User menu is selected, these choices appear:

Use the **Left** and **Right** keys to highlight the menu item you want to access and press the **ENTER** key.

Time **Set** - Use the numeric keys to enter the correct time in the style chosen below.
Style - Choose the style of time display from these choices:

- 12HR - Shows time in the 12 hour style
- 12HR-AP - Shows time in the 12 hour style with AM/PM
- 24HR - Shows time in the 24 hour style

Date **Set** - Use the numeric keys to enter the correct date in the style chosen below.
Style - Choose the style of date display from these choices:

- MMDD2Y
- MMDD4Y
- DDMM2Y
- DDMM4Y

The date format is how the date is stored internally. Printed dates will appear as programmed in the selected print format.

Site ID Use the alphanumeric keys to enter a Site ID, up to six characters.

Seal Shows the status of the physical seal jumper inside the indicator: ***SEAL*** or ***NO SEAL***. If the unit is sealed, no changes can be made to the configuration of the indicator.

Archive This stands for electronic archive. In other regions it is known as an alibi memory or tally roll. These will be transmitted via configured communications ports. These reports can be used to confirm a weighment if it is ever in dispute. Only records that are qualified as a LEGAL record, per site motion criteria, are considered as entries to this log.

The indicator has memory capacity to store approximately 5,000 transactions.

The Archive report uses a rolling memory configuration (FIFO) so the oldest transaction will be written over first when all the memory slots are filled.

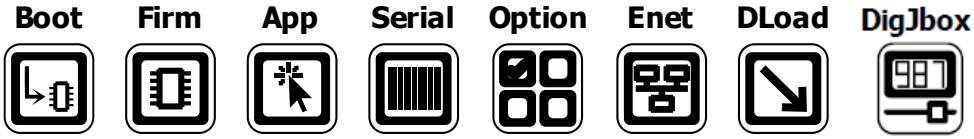
This item appears only if so configured in the ADMIN password protected menu.

Diagnostics Shows operating conditions of the active Scale and ZT Digital Load Cells.

You can exit the menu by following the instructions in *Escaping or exiting from a menu on page 12*.

4.2 About menu

If you access the About menu you will see this menu:



Definitions:

Bootloader *Software that makes the electronics run.*

Firmware *Embedded system software that creates core functions of the product.*

App *Specific software that controls the behaviour for a given installation.*

Use the **Left** and **Right** keys to highlight the menu item you want to access and press the **ENTER** key.

Boot ***PartNo*** - See the bootloader part number.
Version - See the version of the bootloader.

Firm ***PartNo*** - See the firmware part number.
Version - See the version of the firmware.

App ***PartNo*** - See the application part number.
Version - See the version of the application.

Serial See the serial number of the indicator.

Option ***Bus 1 or 2*** - Choose the Bus of the option card.
Card 1 or 2 - Choose the Card you want to view.

- ***Type*** - View the type of card.
- ***Version*** - View the firmware version of the card.

Enet This stands for Ethernet. Use this to view the network addresses:

IP Addr - See the IP address.
Subnet - See the Subnet address.
Gateway - See the Gateway address.
MAC - See the MAC address.

DLoad This stands for download. Use this to view the following:

sSerial - View the license number that created the configuration file.
dSerial - View the license number that downloaded the configuration file.
dName - View the company name for the license shown for downloading.

This is used for security and licensing purposes.

BSQ ***Scale X*** - Choose the scale.

- ***SW Part*** - View the firmware part number of the cell that is connected.
- ***Version*** - View the firmware version of the cell that is connected.
- ***Cur. Ser*** - View the serial number of the cell that is connected.

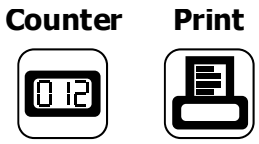
- ***Cal. Ser*** - View the serial number of the cell that WAS connected at the time of calibration.

You can exit the menu by following the instructions in *Escaping or exiting from a menu on page 12*.

T301X, ZB210, and ZT Digital Cell
PartNo - See the firmware part number.
Version - See the version of the firmware.

4.3 Audit menu

If you access the Audit menu you will see this menu:



Counter ***Config*** - See the number of configurations the indicator has undergone.
Calib - See the number of calibrations the indicator has undergone.

Print Use this to select which port to print the audit report through. The audit report will contain both Config and Calib information. Choices are:

- ***Port 1*** Under ***Port 1*** choose to print to a column or ticket printer.
- ***Port 2*** Under ***Port 2*** choose to print to a column or ticket printer.
- ***USB*** Printing to USB requires that a USB flash drive is connected to the indicator host USB. Printing to USB will create a folder on the flash drive and a comma separated file with the data.

You can exit the menu by following the instructions in *Escaping or exiting from a menu on page 12*.

5 Communications

The ZM510 can communicate through these ports:

- Serial
- Ethernet
- USB
- Wireless

5.1 Default print formats

Below are examples of the default formats that are available:

Print format #1 (GTN)

```
  Gross  43500 kg
   Tare  13350 kg
    Net  30150 kg
```

Print format #12 (Axle weighing ticket)

```
  -- AXLE WEIGHING -
       Date 29-12-2016
       Time 12:51:10
         ID RJ16PNO
Transaction 17
     Axle 1 3940    kg
     Axle 2 3940    kg
     Axle 3 4220    kg
     Axle 4 4320    kg
     Axle 5 4420    kg
     Axle 6 3440    kg
     Axle 7 3340    kg
     Axle 8 3140    kg
     Axle 9 4120    kg
    Axle 10 4040    kg
        Sum 38920   kg
```

Print format #13 (Public weighing ticket)

```
    In Date  28-12-2016
    In Time  10:50:45
   Out Date  2016-12-14
   Out Time  10:56:04
         ID   RJ16PNO
Transaction     51

      Gross    43500 kg
       Tare    13350 kg
        Net    30150 kg
```

Print format #15 (Inbound ticket)

```
  In Date 28-12-2016
  In Time 10:50:45
       ID  RJ16PNO
In Weight  43500 kg
```

Print format #16 (Outbound ticket)

```
    In Date  28-12-2016
    In Time  10:50:45
   Out Date  2016-12-14
   Out Time  10:56:04
         ID   RJ16PNO
Transaction     51

      Gross    43500 kg
       Tare    13350 kg
        Net    30150 kg
```

6 Error messages

In order to complete the weighing process, a number of conditions must be met. The following messages may appear which may prevent completion of the weighing sequence.

6.1 Transaction interlock errors

Weight In Motion	Weight not stable. Wait for weight to stabilize
Interlocks Failed	Weight change not enough to meet the interlock requirement. Change interlock value if necessary.
Over Range	Weight over scale capacity. Reduce weight.
Under Range	Weight is negative. Something interfering with the scale function.

6.2 Transaction, first weight creation error

Error, First wt Exists	You're trying to do another IN weight for the same vehicle.

6.3 Printing errors

Timeout	Something interfered with the printing process. Check connections and retry.
Print Error	Something interfered with the printing process. Check connections and retry.
Print Aborted	Something interfered with the printing process. Check connections and retry.
Print Failed	Something interfered with the printing process. Check connections and retry.

6.4 'Copying to or from USB' errors

Failed to Copy File	Something interfered with the copy process. Check USB device.
Can't Close database	Software error. Restart indicator.
File Not Found	File doesn't exist. Create the database.

6.5 ZB210 Errors

Please contact Avery Weigh-Tronix or your service provider for assistance.

6.6 T301X and ZT Cell Errors

If the messages “T301X Error” or “ZT Error” are displayed, open the Diagnostic Menu (111) and contact Avery Weigh-Tronix or your service provider for assistance.

6.7 ZT Ghost

If the message “ZT Ghost” is displayed, the scale is no longer legal for trade. The Ghost is active and the feature detects and replaces one faulty ZT Cell with a simulated output. The “non-legal weight” string should be printed on tickets. Open the Diagnostic Menu (111) and contact Avery Weigh-Tronix or your service provider for assistance.

7 Supervisor information

This chapter covers items that may be suitable only for a supervisor. The Supervisor menu and the database manager menu are covered.

7.1 Supervisor menu

The Supervisor menu, see Figure 7.1, allows a person with the password (**7654**) to configure the Weighbridge application in several ways which are described below.

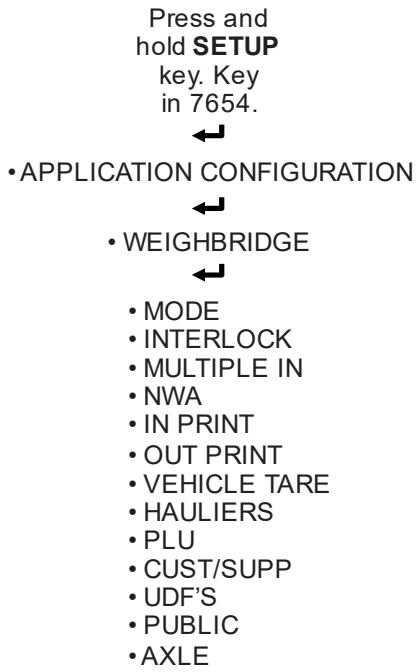


Figure 7.1 Supervisor menu

Below is a table showing the choices shown in Figure 7.1 and the 1st and 2nd level choices under them. Default settings are in bold print.

Weighbridge App Supervisor Top Level	1st Level Choices	2nd Level Choices
MODE	RE-ENTERED IN	
	STORED IN	
	STORED AND PRINTED	
INTERLOCK	ENTER WT INTERLOCK	
MULTIPLE IN	**DISABLED**	
	ENABLED	
NWA	**DISABLED**	
	MANDATORY IN	
	MANDATORY OUT	
	NON-MANDATORY	
IN PRINT	PRINT FORMAT choice	

OUT PRINT	PRINT FORMAT choice	
VEHICLE TARE	DISABLED	
	ENABLED	
HAULIERS	**NEVER**	
	IN	
	OUT	
PLU	**DISABLED**	
	ENABLED	
CUST/SUPP	**DISABLED**	
	ENABLED	
UDF'S	MODE	**NEVER**
		IN WEIGHING
		OUTWEIGHING
		BOTH
	UDF1-5	
PUBLIC	MODE	DISABLED
		ENABLED
	PRINT FORMAT choice	
AXLE	MODE	**DISABLED**
		SINGLE
		COMBINED
	VEHICLE ID	NO
		YES
	PRINT FORMAT choice	

7.2 Supervisor menu details

Each of the items in the supervisor menu are explained in more detail below.

7.2.1 MODE

Under ***MODE*** there are three choices:

RE-ENTERED IN - Choose this if you want to manually enter the IN weight or a known truck tare weight. If the IN weight is taken it will be printed to a printer and this weight can be re-entered manually before the OUT weight is captured. If the truck weight is, for example, printed on the side of the truck, this weight can be entered before the OUT weight is taken.

STORED IN - Choose this to perform an IN weight and all the data will be stored in the database but it will not print. When you do an OUT weighment only those vehicles that have an active IN weight will be listed. When you do the OUT weighing the database is updated and the IN / OUT weights will be sent to the printer and the IN weight will no longer be active.

STORED & PRINTED - The IN weighment is stored and printed. It can be recalled from the database during the OUT weighing step. When you do the OUT weighment the database is updated and the IN/OUT weights sent to the printer, the IN weight will no longer be active. This is the default mode of operation for the application.

7.2.2 INTERLOCK

To block the printing of fraudulent tickets there are weight interlocks.

- Between IN and OUT weighments the weight must change by the interlock value.
- Between multiple IN weights the weight must return to zero.
- Between multiple OUT weights the weight must return to zero.
- Between AXLE weights the weight must change by the interlock value.

Enter the interlock weight value under the ENTER WT INTERLOCK item below.

ENTER WT INTERLOCK - Set the amount of weight change needed to remove the interlock.

*To completely disable the interlocks enter a WT Interlock of **0**.*

7.2.3 MULTIPLE IN

This is for vehicles with multiple sections or tanks which can be filled and weighed after each section is filled.

DISABLE - Select this to disable Multiple IN. This is the default.

ENABLE - Select this to enable Multiple IN.

If enabled, multiple IN weights are allowed for the same vehicle before an OUT weight is taken. If PLUs and a properly designed print format are used the printout can show what product is in each section of the truck and how much they each weighed as well as the total gross and net weights.

7.2.4 NWA

NWA stands for Net Weight allowance. If enabled the operator can subtract a nominal weight from the total product weight, for example to compensate for dirt on a load of potatoes or extraneous material in a load. This is not for use with Legal for Trade transactions but usually used for low value product.

DISABLED - Select this to disable NWA. This is the default setting.

MANDATORY IN - NWA must be done during the IN weighment.

MANDATORY OUT - NWA must be done during the OUT weighment.

NON-MANDATORY - You have the option to do an NWA at the start of the OUT weighment.

7.2.5 IN PRINT

Choose the print format when an IN weight is completed.

PRINT FORMAT Type in the desired format number and press **ENTER** to accept.

7.2.6 OUT PRINT

Choose the print format when an OUT weight is completed.

PRINT FORMAT Type in the desired format number and press **ENTER** to accept.

7.2.7 VEHICLE TARE

Choose to disable or enable the VTARE function. If disabled the key will not appear on the default screen.

DISABLED - Select this to disable vehicle tare (VTARE)

ENABLED - Select this to enable vehicle tare (VTARE). This is the default setting.

7.2.8 HAULIERS

Choose the way haulier information is to be entered:

NEVER - The user will not be asked for the haulier ID.

IN - The user will be asked for the haulier ID during the IN weighment.

OUT - The user will be asked for the haulier ID during the OUT weighment.

7.2.9 PLU

Choose to enable or disable if you are asked for a PLU ID during the OUT weighment.

DISABLED - Select this to disable the PLU request.

ENABLED - Select this to enable the PLU request.

7.2.10 CUST/SUPP

Short for Customer/Supplier. Choose to enable or disable if the indicator asks if this is a customer or a supplier during the OUT weighment process. When one is selected the user can then pick the name of the customer or supplier from the list that appears onscreen.

DISABLED - This function is disabled.

ENABLED - This function is enabled.

7.2.11 UDF's

User defined fields. These are questions that a user can be required to answer to continue the weighing process. Choose the Mode and then up to five questions to be answered by the operator.

MODE - Choose when the questions are asked.

- ***NEVER*** This disables the questions.
- ***IN WEIGHING*** Questions will be asked during the IN weighing process.
- ***OUT WEIGHING*** Questions will be asked during the OUT weighing process.
- ***BOTH*** Questions will be asked during both the IN and OUT weighing processes.
- ***UDF 1-5*** Use these five fields to type in the questions.

7.2.12 PUBLIC

Choose to enable or disable the PUBLIC weighing function. This allows anyone to weigh their vehicle and lets them print the weight information from a single weighment.

MODE - Choose to enable or disable this function.

- ***DISABLED*** Select this to disable the PUBLIC function.
- ***ENABLED*** Select this to enable the PUBLIC function.
- ***PRINT FORMAT*** Type in the desired format number and press **ENTER** to accept.

7.2.13 AXLE

Choose to enable Axle weighing, whether or not to require a Vehicle ID and to choose the print format. The default format (#12) is shown below.

```
  -- AXLE WEIGHING -
       Date 29-12-2016
       Time 12:51:10
         ID RJ16PNO
Transaction 17
     Axle 1 3940    kg
     Axle 2 3940    kg
     Axle 3 4220    kg
     Axle 4 4320    kg
     Axle 5 4420    kg
     Axle 6 3440    kg
     Axle 7 3340    kg
     Axle 8 3140    kg
     Axle 9 4120    kg
    Axle 10 4040    kg
        Sum 38920   kg
```

MODE - Choose to enable or disable

- ***DISABLED*** Select this to disable axle weighing.
- ***SINGLE*** Select this to enable single axle weighing mode. In this mode a narrow, axle weighing scale can be used to weigh multiple axles.

  The display prompts for the number of axles to be entered and then the driver is prompted to place the first axle on the scale. When the weight is stored the display will show the axle weight briefly then prompt for the next axle to be driven onto the scale, etc. until all axles are weighed.

  The live weight is displayed after all axles are weighed. The individual axle weights and the total are available for printing if the indicator is so configured.
- ***COMBINED*** Select this to enable combined axle weighing mode. In this mode a full length truck scale can be used to weigh individual axles.

This mode works whether the axles are driven onto the scale one at a time or if they are driven off the scale one at a time.

The display prompts for the number of axles to be entered and then the driver is prompted to drive the first axle onto the scale. When you press the **STORE** key, the weight is stored and the display will show the axle weight briefly. The display then prompts for the next axle to be driven onto the scale, etc. until all axles are on the scale.

The live weight is displayed after all axles are weighed. The individual axle weights and the total are available for printing if the indicator is so configured.

VEHICLE ID - Require vehicle ID?

- ***NO*** Do not require vehicle ID. No ID is required to perform a weighment
- ***YES*** Require vehicle ID. An ID is required before a weighment can be performed.

PRINT FORMAT Type in the desired format number and press **ENTER** to accept.

7.3 Database manager menu

The database manager menu (password 1000) is shown below.

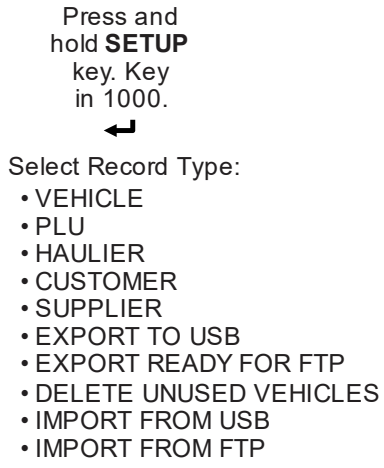


Figure 7.2 Database manager menu

This menu allows the supervisor to import, export or edit a database made up of the following five records:

- VEHICLE
- PLU
- HAULIER
- CUSTOMER
- SUPPLIER

These five records are contained in the database file when importing and exporting via USB or FTP.

You may also delete any unused vehicles from the database.

Following are instructions on how to accomplish these tasks.

7.3.1 Creating or updating a database

To create or update a database you must import a database using USB or FTP. This will overwrite an existing database or create a new one if one did not exist in the ZM510.

When importing or exporting a database file USB memory stick must be attached or the unit must be set up to use File Transfer Protocol (FTP) or you will get a message saying the action could not be taken.

7.3.2 Deleting a database

To delete a database you must import an empty database using USB or FTP. This will overwrite an existing database and leave all the records blank.

7.3.3 Deleting an unused vehicle

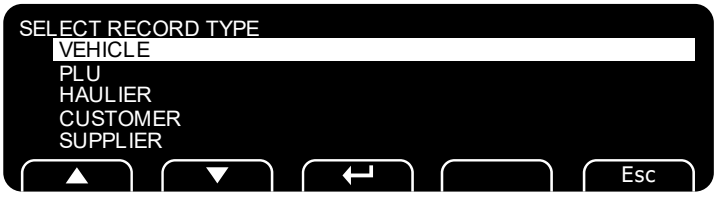
Clean up the records in your database by deleting any listed vehicles that have no data. Do this by choosing DELETE UNUSED VEHICLES from the list shown in the Database Manager menu, Figure 7.2. The screen shows ***DELETING UNUSED...*** briefly and then returns to the main startup screen.

7.3.4 Editing an existing record

Follow these steps to edit a record that exists in the ZM510.

1. Hold the SETUP key until the password entry screen appears and enter ***1000*** and press **ENTER** …

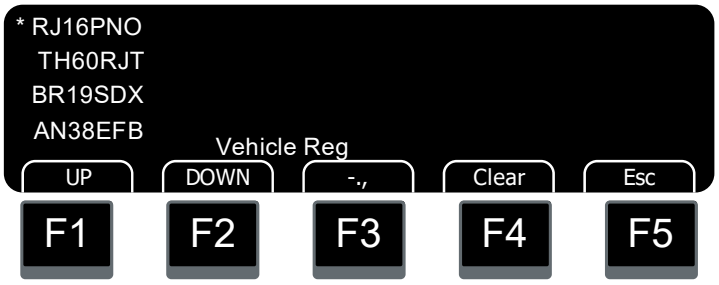
   This screen appears:



*The process is the same for all five items but there are differences in what items appear to be edited. A list of the items and their purposes are shown after this procedure. The **VEHICLE** item is used to illustrate the process.*

2. Use the **UP** or **DOWN** key to highlight ***VEHICLE*** and press the **ENTER** key ….

   The Vehicle Registration screen is displayed.



3. Highlight the vehicle you want to edit and press the **ENTER** key …

*Remember that when you are in the database screens you must use the **ENTER** (↵) key located at the lower right of the keyboard and not the **ENTER/ZERO** key.*

This screen appears.

Tare	Select this item to enter a tare weight for the vehicle.
Clear First	Select this item and this message is displayed: ***Clearing first wts.*** The IN weighment for that vehicle is cleared.
Erase	Select this item and this message is displayed: ***Erasing Vehicle.*** The vehicle registration is erased from the database.

Editing PLU item

Here are the items listed if you choose to edit the ***PLU*** record:

Description	Select this item to type in a description for the PLU.
Sub Total	Select this item to type in a subtotal weight for the PLU.
Grand Total	Select this item to type in a grand total weight for the PLU.
Erase	Select this item and this message is displayed: ***Erasing PLU.*** The PLU is erased from the database.

Editing HAULIER item

Here are the items listed if you choose to edit the ***HAULIER*** record:

Sub Total	Select this item to type in a subtotal weight for the haulier.
Grand Total	Select this item to type in a grand total weight for the haulier.
Erase	Select this item and this message is displayed: ***Erasing Haulier.*** The haulier is erased from the database.

Editing CUSTOMER item

Here are the items listed if you choose to edit the ***CUSTOMER*** record:

Line 1-5	Select one of these five lines to change the description for this customer.
Sub Total	Select this item to type in a subtotal weight for the customer.
Grand Total	Select this item to type in a grand total weight for the customer.
Erase	Select this item and this message is displayed: ***Erasing Customer.*** The customer is erased from the database.

Editing SUPPLIER item

Here are the items listed if you choose to edit the ***SUPPLIER*** record:

Line 1-5	Select one of these five lines to change the description for this supplier.
Sub Total	Select this item to type in a subtotal weight for the supplier.
Grand Total	Select this item to type in a grand total weight for the supplier.
Erase	Select this item and this message is displayed: ***Erasing Supplier.*** The supplier is erased from the database.

When you are finished, press the **ESC** softkey to return to normal weighing mode.

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