

# GS8920 TICKET PRINTER

## SUPPLEMENTARY CHAPTER TO THE PRINTER'S INSTALLATION & OPERATION MANUAL.

**This supplement contains instructions on how to install and use the GS8920 with the GS1650Mk3/v2 Multi-Range/Multi-Interval Weight Indicator. It also includes further information on the use of the GS8920's Tare Registers.**

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**ABOUT THIS SUPPLIMENT to the GS8920 PRINTERS' MANUAL**

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This manual supplement is part of the Installation and Operation Manual of the GS8920 Ticket Printer. It should be read in conjunction with that manual as it adds new information and expands on some of the existing information. This supplement can be used for all GS8920 Printers regardless of when they were manufactured.

**S.1 THE GS8920's TARE REGISTERS.**

**S.1.1 Uses of the Tare Registers.**

The GS8920 has 50 tare registers. They are able to store tare weight values that have either been entered into the GS8920 by the operator via the GS8920's keyboard or automatically by the GS8920 during a WEIGH-IN operation. There is no particular group of tare registers set aside for use during a WEIGH-IN function. When the GS8920 requires a WEIGH-IN tare register it searches all of the 50 tare registers and selects the first empty one that it finds.

You can find out which tare registers have been used for WEIGH-IN purposes by obtaining a printout of all the tare register values. To do this, insert a sheet of paper into the Printer, key PRINT and then TARE - the GS8920 will now print all tare registers that have a value stored in them. Tare registers that do not appear on the list are empty. The main part of the list will look like this:-

[01]	-17950kg T
[03]w	- 590kgT
[27]w	- 22350kgT
[34]	- 400kgT

In this example list, the number in the bracket is the tare register's number, the minus sign means subtractive tare, the value is the stored value in the register, the "kg" is the units of measure selected during installation, "T" stands for tare and the "w" means that this particular tare register is storing a gross weight value recorded by the GS8920 during a WEIGH-IN operation. All other tare registers contain values entered by the Operator using the GS8920's keyboard.

The list above includes only tare registers 1, 3, 27 and 34. All of the remaining 46 tare registers are not listed because they are empty. They are all available to be used either for key tare entry or WEIGH-IN/WEIGH-OUT.

**S.1.2 Checking for Un-Cleared Tare Registers.**

If the GS8920 is used to WEIGH-IN/WEIGH-OUT you should obtain a tare list at the beginning of the day to make sure there are no stored tare values remaining from the previous days WEIGH-IN operation. If there are, it means that a truck has been "weighed in" using the WEIGH-IN key and is either still in the factory OR it was "weighed out" without using the GS8920's weigh-out feature.

**NOTE:-** The GS8920 will only carry out a weigh-out operation if a tare register that was used to weigh-in is used to weigh-out. When the GS8920 asks for a tare register number during the weigh-out process, it ignores all tare register number entries unless they contain a weigh-in tare value.

Because the GS8920 ALWAYS clears a weigh-in tare register after it is used to weigh-out, there should never be any weigh-in tare registers remaining at the end of a complete cycle of vehicle in and vehicle out. If there are, and you do not clear them, or you do not correct the procedure that led to them not being used to WEIGH-OUT, you will eventually find there are no empty tare registers for the GS8920 to use during WEIGH-IN.

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#### S.1.3 Why you may not be able to Enter a Tare Value into the GS8920.

There are four reasons why you may not be able to enter a tare value into one of the GS8920's tare registers, they are:-

1. The GS8920 has locked the tare register you have selected because it contains a WEIGH-IN tare value. This type of locking results in the message “-Locd-” being displayed by the GS8920 whenever an attempt is made to change the contents of a weigh-in tare register. As a security measure you are not allowed to change the value in a “weigh-in” tare register.
2. The GS8920 has been installed with its keyboard tare entry feature disabled. This can be checked by following the instructions in the GS8920's Manual section 2.4 Digital Setup and viewing the setting for Parameter 2.4.3.25 “Tare Entry”. Tare values cannot be keyed into the GS8920 if this is set to OFF. **WARNING** - you should not make any changes to the Digital Setup settings without first obtaining suitably qualified advice. Any changes that are made without care can result in improper operation of the GS8920 Printer. If in doubt contact your supplier or the factory.
3. If the GS8920 rejects the tare value that you enter and displays the message “-Errt-”, then you are either trying to enter a tare value that is greater than the capacity of your installation or the smallest increment you are entering is not the same as the smallest weighing increment that your installation has been calibrated for. For example, a 60t weigh bridge may display weight in 20kg increments. Any attempt to enter a tare value having an increment size smaller than this would not be accepted by the GS8920 (e.g. 10,020kg is ok but 10,010kg is not acceptable nor is 10,030kg). The actual settings allowed can be checked by following the instructions in the GS8920's Manual section 2.4 Digital Setup and viewing the setting for Parameter 2.4.3.25 Tare Entry and 2.4.3.26 Count By.
4. The GS8920 may be unable to carry out a WEIGH-IN function because it cannot find an empty tare register in which to store the vehicle weight. If this happens, the GS8920 will display the error message “**Err09**”. You will then need to clear some of the GS8920's tare registers.

#### S.1.4 How to Clear the GS8920's Tare Registers.

**Clearing Normal Tare Registers.** You can clear a normal tare register by selecting it and clearing it. The key operations, using tare register 50 as an example and showing the GS8920's display in “*italics*” are:-

```
TARE “tr ___”  
5 “tr 05”  
0 “tr 50”  
ENTER “tr 50”  
CODE/WT “001950” the tare value is presently 1950kg  
CLEAR “000000”  
ENTER “000000” finished, tare register 50 is now empty.
```

**Clearing Weigh-In Tare Registers.** To prevent fraudulent use of the WEIGH-IN/WEIGH-OUT operation, the GS8920 locks all of its tare registers containing a WEIGH-IN value. Because of this safety feature, you cannot clear a tare registers containing a weigh-in tare value except by using it to weigh-out. If you must clear some weigh-in tare register, and you are certain they do not contain current information, you can have the GS8920 clear them for you by carrying out a “dummy” WEIGH-OUT operation.

To clear a WEIGH-IN tare register insert a ticket into the printer and then key WEIGH-OUT. When the GS8920 asks for a tare register number enter the register you wish to clear. The GS8920 will then print a WEIGH-OUT ticket and will clear the tare register. Repeat this operation for all weigh-in tare registers to be cleared.

**WARNING** - if you are totalizing the GS8920's transactions, you should consider the effect that all of these “dummy” transactions will have on your totals. It may be a good idea to list your totals, then do the “dummy” WEIGH-OUT operations and then clear the totals to erase the effect of the “dummy” operations.

## **S.2 GS8920 PRINTER with the GS1650Mk3/v2 WEIGHT INDICATOR.**

### **S.2.1 Introduction.**

The GS1650Mk3/v2 Multi-Interval/Multi-Range Indicator can be installed to operate in one, two or three weighing ranges or weighing intervals. Regardless of how many ranges or intervals are used, the operation of the GS8920 Printer with the GS1650Mk3/v2 Indicator will always be the same:-

The GS8920 Printer must be installed so that it uses ONLY the Gross weight from the GS1650Mk3/v2, it must not use the Tare or Net weight as all tare functions must be provided by the GS8920 Printer.

This should present no practical limitations to the usefulness of the GS1650Mk3/v2 Indicator and GS8920 Printer combination, as the full benefit of the GS1650Mk3/v2's multi-range ability is still obtained. Furthermore, the majority of applications require the entry of a tare value either by the Operator via the GS8920's keyboard or automatically by the GS8920's WEIGH-IN/WEIGH-OUT function.

The following includes additional information not contained in the GS8920's Manual. Nevertheless, the GS8920's manual must still be read carefully with particular attention to pages 2.8 to 2.13 covering the use of the GS8920 Printer with weight indicators.

### **S.2.2 Settings required on the GS8920 Printer.**

The settings below ensure that the GS8920 uses its own tare value (entered via its keyboard or during weigh-in/weigh-out) rather than the tare value supplied by the GS1650Mk3/v2 Indicator. In addition, the Tare Entry setting is adjusted so that the minimum increment size of the weight indicator can be used for tare values up to the full scale capacity of the installation. Below are the GS8920's settings. For further reading and reference they include the item number and page number in the GS8920's Manual.

#### ***2.4.3.7 Print G, N or All. Page 2-5***

The only settings that may be selected are "Pr All" for a Gross, Tare and Net print OR "Pr g" for a gross only print. The selection "Pr n", for print only net, tells the GS8920 to ignore its own tare registers and print the Net weight obtained from the weight Indicator. As the GS1650Mk3/v2's tare feature is not used with the GS8920, it sends a net weight which is the same value as the gross weight. There is therefore no point in making this selection when using the GS8920 Printer with the GS1650Mk3/v2 Indicator.

#### ***2.4.3.25 Tare Entry page 2-8***

This setting should be the same as the GS1650Mk3/v2's Full Scale setting, regardless of how many weighing ranges the GS1650Mk3/v2 Indicator is set for. You will need to enter the GS1650Mk3/v2's digital setup and view the Full Scale setting to obtain this value.

For example, a GS1650Mk3/v2 may be installed to weigh in two ranges to 80,000kg. The first range of 3,000 divisions by 20kg increments, the second 1,600 divisions by 50kg increments. To achieve this, the GS1650Mk3/v2 will have been installed with a **Full Scale setting of 4,000 divisions** and a count by setting of 20kg. (The GS1650Mk3/v2 manual can be consulted if an explanation of these settings is required.)

For this example, the GS8920's Tare Entry setting should be adjusted to "tE 40" which is 4,000 divisions as it is the same as the GS1650Mk3/v2's Full Scale setting.

**NOTE:-** *You only need to read this if the GS1650Mk3/v2's Full Scale setting is above 10,000 divisions. If it is not, you can go to 2.4.3.26 on the following page.* The GS8920 can be set to Tare Entry settings up to a maximum of 10,000 divisions, whereas the GS1650Mk3/v2 can be set for up to 25,000 divisions full scale. When the GS1650Mk3/v2 is set for more than 10,000 divisions, the GS8920 must be set differently to that described above. Instead of using the Full Scale value and Count By setting of the GS1650Mk3/v2, the GS8920 must use some other value, while still ensuring that a tare no greater than the scales capacity can be entered. This is best explained using an example:- An installation is calibrated to 150,000kg in

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three 3,000 division ranges, by 10kg to 30,000kg, by 20kg to 60,000kg and by 50kg to 150,000kg. To achieve this, the GS1650Mk3/v2's Full Scale setting will be 15,000 divisions at a count by setting of 10kg. As the GS8920 cannot be set to 15,000 divisions, some other value must be used. This value, together with the Count By setting must not exceed 150,000kg. Additionally, the Count By setting must accord with the GS1650Mk3/v2's settings - it must be either 10kg, 20kg or 50kg. The choices for the GS8920's "Tare Entry" setting is therefore either **7,500 divisions** by 20kg or **3,000 divisions** by 50kg. You should select whichever is the most appropriate for the application.

#### 2.4.3.26 Count by page 2-8

This setting should be the same as the GS1650Mk3/v2's Count By setting, regardless of how many weighing ranges the GS1650Mk3/v2 Indicator is set for. You will need to enter the GS1650Mk3/v2's digital setup and view the Count By setting to obtain this value. If, as described above, an alternative Count By value must be used because the GS1650Mk3/v2's Full Scale setting exceeds 10,000 divisions, then this alternative Count By setting will need to be selected.

#### 2.4.3.27 Indicator Type page 2-8

Select indicator type 1 "Ind. 1" for the GS1650Mk3/v2.

### S.2.3 Settings required on the GS1650Mk3/v2 Weight Indicator.

The following replaces section 2.6 "GS Digital Weight Indicator Setup" of the GS8920's Manual. You will need to refer to the GS1650Mk3/v2's manual for information on how to select these settings.

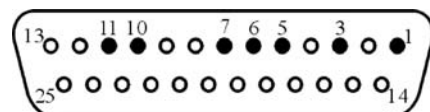
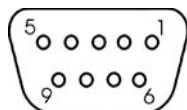
#### S.2.3.1 Serial Output Option.

The GS1650Mk3/v2 can be fitted with either an Option02 RS-232C Serial Output, an Option202 RS-232C Isolated Serial Output (operated in either the Isolated or Non-Isolated mode) or an Option05 20mA Active Current Loop Serial Output. The RS-232C Options are suited to cable runs up to 10 meters. For longer cable runs the 20mA Current Loop option is recommended. The data rate switches (SW1) on the option card should be set to 4800Baud. The interconnecting cable between these option cards and the GS8920 is shown in the table below:-

GS8920's 9 pin female connector.		GS1650Mk3/v2's 25 pin female Serial Option Connector			
		RS-232C Option02 and Option202		20mA CL Opion05	
Pin	Connection	Pin	Connection	Pin	Connection
1	Frame. No connection.	1	Frame/Shield.	1	Frame/Shield
3	RS-232C Serial Input.	3	RS-232C Serial Output.		
7	Serial signal ground.	7	Signal ground.		
5	-Tx (-20mA) CLoop Input.			3	-Tx 20mA Serial Return
4	+Tx(+20mA) CLoop Input			6	+Tx 20mA Serial Out

**Note 1:-** Use a high quality data cable with twisted pairs containing an overall foil shield and drain wire. The shield is to be connected to pin 1 at ONLY ONE END of the cable. It is to be soldered to pin 1 and crimped between the shells of the metal back shells of the 25 pin male cable connector.

**Note 2:-** See page 2-11 of the GS8920's Manual for use and connection to the 9 pin connector of a remote key switch, and a security jumper.



**GS8920's Input Connector, cable side, 9 pin male. Serial cable connector, cable side, 25 pin male.**

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<b>Baud Rate Selection Table for Serial Options02/202 and 05 .</b>				
	<b>SW1(1) to (4) on the serial card.</b>			
<b>Baud Rate</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>600</b>	<b>off</b>	<b>off</b>	<b>off</b>	<b>not used</b>
<b>1200</b>	<b>on</b>	<b>off</b>	<b>off</b>	<b>not used</b>
<b>2400</b>	<b>off</b>	<b>on</b>	<b>off</b>	<b>not used</b>
<b>4800</b>	<b>on</b>	<b>on</b>	<b>off</b>	<b>not used</b>
<b>9600</b>	<b>off</b>	<b>off</b>	<b>on</b>	<b>not used</b>
<b>19200</b>	<b>on</b>	<b>off</b>	<b>on</b>	<b>not used</b>
<b>not used</b>	<b>off</b>	<b>on</b>	<b>on</b>	<b>not used</b>
<b>not used</b>	<b>on</b>	<b>on</b>	<b>on</b>	<b>not used</b>

**S.2.3.2 Essential Digital Setup and other Settings in the GS1650Mk3/v2.**

For proper operation of the GS8920 Printer, the following settings must be selected in the GS1650Mk3/v2's Set Up. All other GS1650Mk3/v2 settings can be selected to suit the weighing operation. The settings below include item numbers and page numbers in the GS1650Mk3/v2's manual issue03 of August 1997.

**Device Number**

**2.5 Device Number. Page 2-2.**

The GS8920 Printer can print a number to identify the weight indicator. It is printed on the ticket as "dn07" following the time and date. "dn" stands for device number and, in this example, the indicator is number 7. If you require a printed device number select 1 to 98, otherwise select "00".

**Digital Setup Settings.**

**2.7.8 Push Button Disable. Page 2-4**

All tare functions must be carried out by the GS8920. You must disable the GS1650Mk3/v2's Tare functions by disabling its tare keys. Select "At.n.t" to disable the TARE, DISPLAY NET and DISPLAY TARE keys.

**2.7.10 Output. Page 2-4**

Select serial stream data "out.C3"

**2.7.16 Block Division. Page 2-5**

Select "bd 06" (nothing).

**2.7.17 Beginning and End Character. Page 2-5**

select "bE 06" (STX and ETX).

**2.7.18 Parity. Page 2-5**

Select "PA E" Even parity.

**2.7.19 Special Performance. Page 2-5**

Select "SP-C3A" required output for Weights and Measures Applications.

NOTE:- The GS1650Mk3/v2 manual section 2.7.19 states that "SP-C3n" should be used for Gedge Systems' Printers and Non-Trade Applications. This does not refer to the use of the GS1650Mk3/v2 in trade applications with the GS8920 Printer. The comment should be ignored as "SP-C3A" is the appropriate selection for this application of the GS8920 Printer.

**2.7.21 Print Interval/Range Number. Page 2-6**

Do not send this information to the GS8920. select "P.In OFF"