

# 920i Short Axle Weighing

*Software Application*

*Version 1.09*

## Operation Manual



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# Revision History

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This section tracks and describes manual revisions for awareness of major updates.

Revision	Date	Description
B	June 2, 2026	Established revision history; updated auxiliary formats and screenshots; Version 1.09

*Table i. Revision Letter History*



*Technical training seminars are available through Rice Lake Weighing Systems. Course descriptions and dates can be viewed at [www.ricelake.com/training](http://www.ricelake.com/training) or obtained by calling 715-234-9171 and asking for the training department.*

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## 1.0 Introduction

The 920i<sup>®</sup> Short Axle Weighing (PN 153146) with custom programming will be interfaced to a short axle scale and will direct each axle across the scale using traffic lights.



**NOTE:** After a successful download the 920i needs to be power cycled.

## 2.0 Operation

System displays the **Enter ID**, **Reprint**, and **Setup Menu** softkeys when it powers up or when it exits the configuration or setup menus.



**NOTE:** The scale should have no weight on it and the display should be at 0 and have a GREEN light if traffic or LaserLight<sup>®</sup> is used.

*If a Stop and Go LaserLight is being used a serial command will be sent to port 4 (LaserLight).*

1. Press the **Enter ID** softkey and enter the Truck ID (optional).
2. Driver pulls the axle onto the scale exceeding the configurable **Axle Threshold** (defaulted to 1000 lb).
3. The system performs the following actions:
  - Traffic Light changes to **RED**
  - Captures the stable axle weight
  - Displays **Axle X Captured** (X = the axle number being weighed)
4. System waits for **Red Light On Time** (defaulted to 3 seconds) to expire before performing the following actions.
  - Traffic Light changes to **GREEN**
  - Updates Remote Display with Current Axle Weight
  - Updates 920i Display with Current Axle Weight and Total Axle Weight
5. Driver pulls ahead until the current axle is off the scale and the next axle is on the scale.
6. When the weight changes by  $\pm$  the **Delta Weight** lb (defaulted to 500 lb) more/less than the previous axle weightment the system starts waiting for standstill.
7. The axle is captured and the **Axle Delay** will start (defaulted to 5 seconds).
8. System repeats steps 2-7 until the 15th axle is weighed, the configurable **Last Axle Timer** (defaulted to 20.0 seconds) is expired or the **Finalize Ticket** softkey is pressed, at which point the system performs the following:
  - Prints a weigh ticket
  - Stores all axles in the transaction database. If full, system will delete the oldest 25 percent.
  - The Remote Display shows the total axle's weight for the **Total Weight Remote Display Time** before returning to streaming the live gross weight.



**NOTE:** Maximum number of axles is 15

*The PRINT key will print the standard Gross Format (see [Figure 1](#)) to the Epson<sup>®</sup> TM-U295 on Port 3.*

*Port 4 will be setup up for LFT streaming to a Remote Display.*

*The Reprint softkey allows the operator to reprint the last ticket.*

*A transaction will be stored with the truck ID, each axle weight and the total weight and time/date and optional truck ID (if entered).*

## 3.0 Serial Communications

The outbound weigh ticket will be transmitted out Port 3 to a TM-U295. The formats can be modified through the 920i front panel or using a PC application called iRev™.

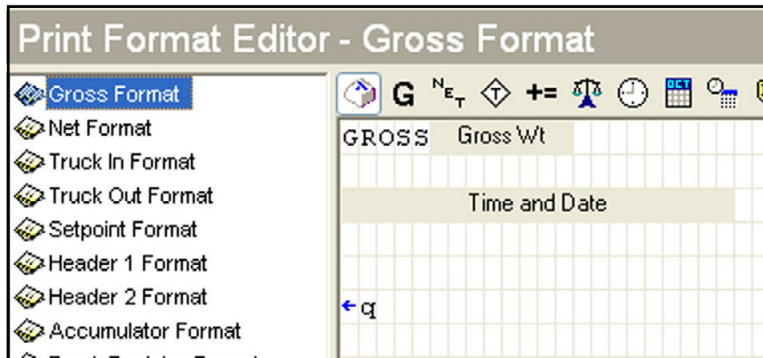


Figure 3-1. Print Format Editor

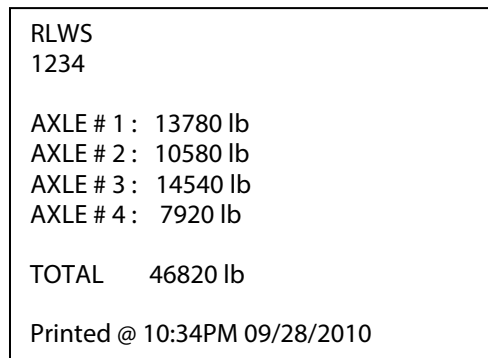


Figure 3-2. Ticket Sample

### 3.1 Auxiliary Format 1

Used to print header information.

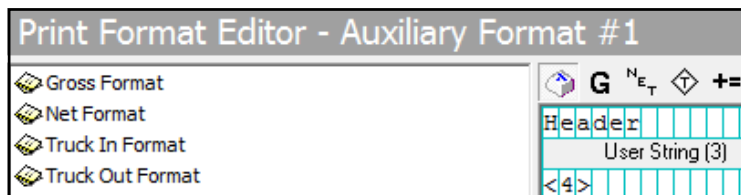


Figure 3-3. Auxiliary Format 1



**NOTE:** User String 3 is the optional Truck ID

### 3.2 Auxiliary Format 2

Used to print detail information.

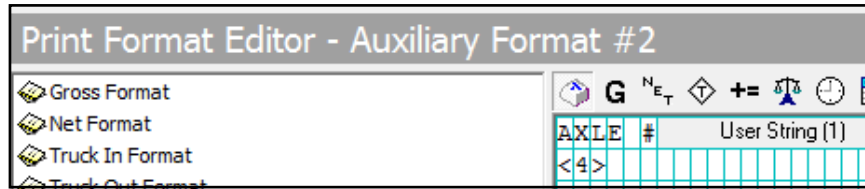


Figure 3-4. Auxiliary Format 2

### 3.3 Auxiliary Format 3

Used to Print Total Information.

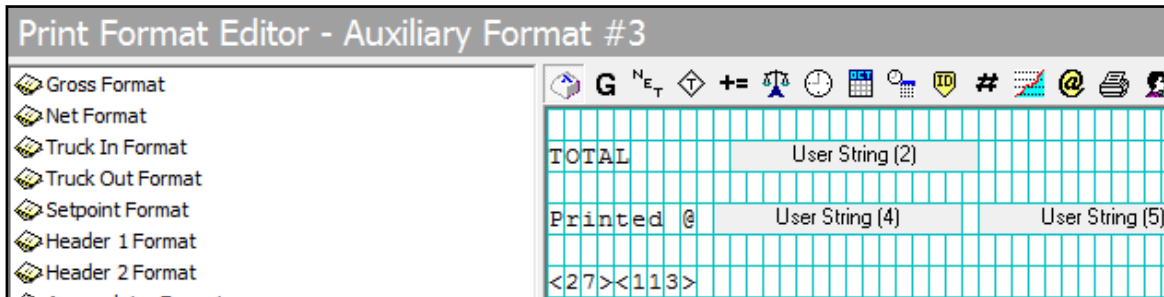


Figure 3-5. Auxiliary Format 3

### 3.4 Auxiliary Format 4

Used to print green light serial string.

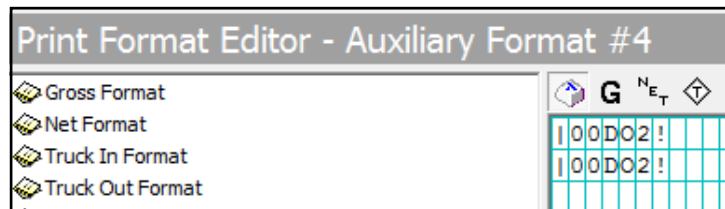


Figure 3-6. Green Light Serial String

### 3.5 Auxiliary Format 5

Used to print red light serial string.

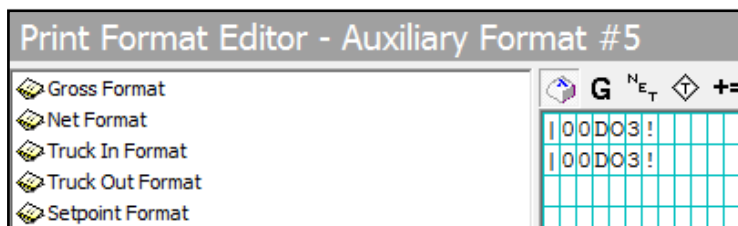


Figure 3-7. Red Light Serial String

## 4.0 Modifying the Database Tables

A PC program called Interchange™ can be used by the end-user to upload, export and clear the database tables. The exported file may be saved as a delimited text file, an Excel spreadsheet, or as a XML document iRev™ may also be used to perform database maintenance.

### 4.1 Application Setup & Configuration

The **Setup Menu** softkey is password-protected and offers access to the following:

- Display Program Name & Version
- Display a weight widget

Parameter	Default	Softkey	Description
System Time and Date	Current	Time/Date	Time and date of 920i
System Password	none	Setup Password	Changing the password that is required for entry into the Setup menu. Setting the password to nothing will cause the system to not prompt for a password when the [Setup Menu] softkey is pressed.
Axle Threshold	1000 lb	Axle Threshold	The amount of weight the scale must exceed to trigger a weighment.
Last Axle Time	20.0 sec	Last Axle Time	Maximum length of time the system will wait for another axle. If the timer is satisfied, the transaction is complete.
Delta Weight	500 lb.	Delta Weight	Minimum weight change the indicator must see in order to recognize another axle.
Axle Delay	5.0 sec	Axle Delay	The delay between axles.
Red Light On Time	3.0 sec	Red Light On Time	Time the red light stays on before switching to green to prompt the driver for the next axle.
Total Display Time	10.0 sec	Total Display Time	Length of time the total axle weight will be displayed after the transaction has been finalized
Clear Transactions	-	Clear Trans DB	Clear Transaction database with a Yes/No option.
USB Upload/ Download	-	USB Options	920i standard USB softkey. Please reference the 920i Installation manual for more details (920i USB required).
Contrast Key	-	USB Options	920i standard Contrast softkey. Please reference the 920i Installation manual for more details (920i USB required).

Table 4-1. Setup Menu Parameters

## 4.2 Database Table

Field	Type	Description
ID	String	Truck Id – 15 alphanumeric
Axle1	Real	Axle 1 weight
Axle2	Real	Axle 2 weight (if applicable)
Axle3	Real	Axle 3 weight (if applicable)
Axle4	Real	Axle 4 weight (if applicable)
Axle5	Real	Axle 5 weight (if applicable)
Axle6	Real	Axle 6 weight (if applicable)
Axle7	Real	Axle 7 weight (if applicable)
Axle8	Real	Axle 8 weight (if applicable)
Axle9	Real	Axle 9 weight (if applicable)
Axle10	Real	Axle 10 weight (if applicable)
Axle11	Real	Axle 11 weight (if applicable)
Axle12	Real	Axle 12 weight (if applicable)
Axle13	Real	Axle 13 weight (if applicable)
Axle14	Real	Axle 14 weight (if applicable)
Axle15	Real	Axle 15 weight (if applicable)
Total	Real	Total of all axles
TimeDate	Datetime	Time/date of weighment

Table 4-2. Transactions (“Trans”) Database Table 400 Records

## 5.0 Hardware Setup

Slot	Type
1	Single Channel A/D Card
2	Currently Not Used

Table 5-1. Option Card Locations

Slot	Bit	Type	Function
0	1	Output	Green Light
0	2	Output	Red Light
0	3-6	Off	Currently Not Used

Table 5-2. Digital I/O

Port	Type	Description	Setup
1	CMD	Currently Not Used	9600,8,N,2
2	CMD / KEYBRD	PS2 Keyboard	115200,8,N,2
3	CMD	Ticket printer (TM-U295 as an example)	9600,8,N,2

Table 5-3. Serial Ports

4	CMD	Stop and Go Remote Display Streaming Control in User Program Hold Weight (HOLD U) to be turned on the Remote Display	9600,8,N,2
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Table 5-3. Serial Ports (Continued)

## 5.1 Version Updates

Version	Changes	Date	Firmware
1.00	Initial Release	06/01/2012	5.06
1.01	Added USB options	06/20/2012	5.06
1.02	Added Auto Delete Transactions. Added PassCalc. Added Contrast Key for USB indicators.	06/06/2013	5.06
1.03	Changed to Part Number 153146	05/26/2014	5.06
1.04	Change to timer when capturing weight have to be stable for 3 sec.	09/05/2015	5.06
1.06	Increased delay to allow a reprint to print successfully	10/20/2017	5.06
1.07	Fixed issue with Auto Delete Transaction DB	04/24/2018	5.06
1.08	Fixed issue with streaming Stop and Go Remote Display	09/29/2021	5.06
1.09	Added Support for LaserLight3 (Legacy Mode) Optimized printing logic for Remote Displays Removed hard-coding of setpoint 2	05/04/2026	5.06
Download: <input checked="" type="checkbox"/> SC = Standard Configuration <input checked="" type="checkbox"/> PF = Print Formats <input checked="" type="checkbox"/> SP = Setpoints <input checked="" type="checkbox"/> W = Widgets <input checked="" type="checkbox"/> DB = Database Tables <input checked="" type="checkbox"/> COD = Program			

Table 5-4. Version Updates

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