

1280 Axle Weighing (PN191973)

Date : 5/7/21
Version 1.02

Software User Guide



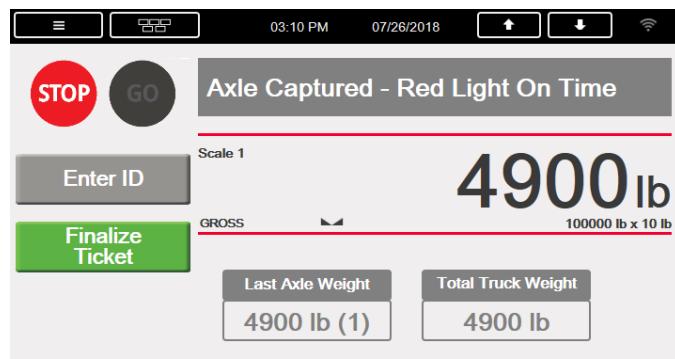
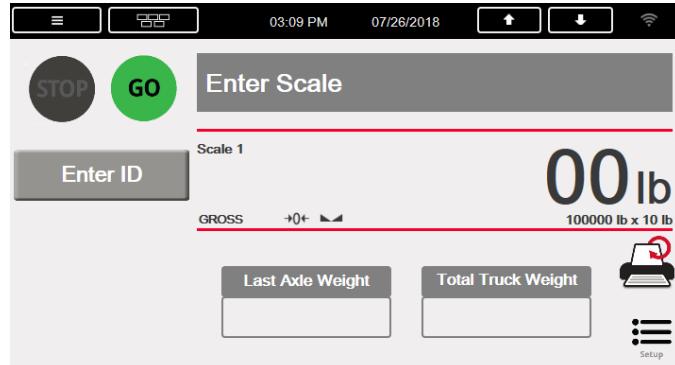
Scope

1280 with custom programming will be interfaced to a short axle scale or long axle scale and will direct each axle across the scale using traffic lights. Optional features include manual weighing, short axle, long axle and weigh in/out with axles.

Sequence of Operation

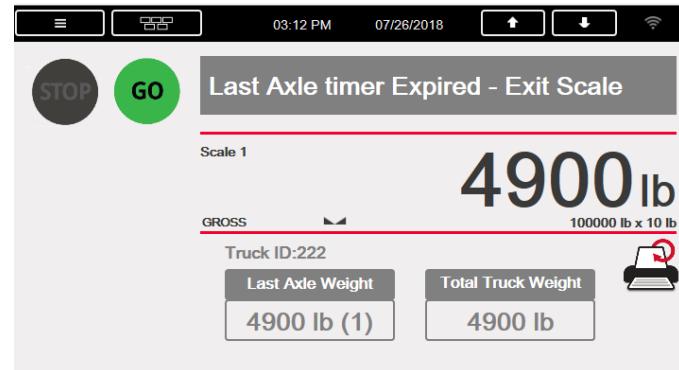
Automatic Axle Weighing (Short or Long)

1. The scale is empty, sitting at zero, and displaying a **GREEN** light. The Stop & Go Remote is displaying the current live gross weight along with a **GREEN** light. The lights cannot be manually controlled in automatic axle weight.
2. Driver presses the **Enter ID** touch widget and enters the Truck ID (optional unless **Weigh In / Out** option is enabled). The ID can be entered at any time during the process.
3. Driver pulls his axle onto the scale exceeding the configurable **Axle Threshold** (defaulted to 1000 lb).
4. The system performs the following actions:
 - a. Traffic Light changes to **RED**.
 - b. Sends a **RED** serial command to the Stop & Go Remote Display.
 - c. Captures the stable gross axle weight after being stable for 3.0 seconds.
 - d. Starts **Last Axle Timer** (defaulted to 45.0 seconds).
5. The system performs the following when the **Red Light On Time** (defaulted to 3.0 seconds) expires:
 - a. Traffic Light changes to **GREEN**.
 - b. Sends a **GREEN** serial command to the Stop & Go Remote Display.
 - c. Updates the Remote Display with the Current Axle Weight.
 - d. Updates the 1280 display with the Current Axle Weight and Total Axle Weight.
6. Determines Axle Setting (**Short** or **Long**):
 - a. **Short Axle**: Driver pulls his axle off the scale and places his next axle onto the scale.
 - i. When the weight is **+/- Delta Weight** lb (defaulted to 500 lb) more/less than the previous axle weight the system starts the **Axle Delay** (defaulted to 5.0 seconds). The Remote Display goes back to streaming the live gross weight.
 - b. **Long Axle**: Driver pulls forward until the next axle also enters the scale (*Only supports an increase in weight –Driving 1 axle on the scale at a time*).
 - i. When the weight is **+ Delta Weight** lb (defaulted to 500 lb) more/less than the previous total axle weight the system starts the **Axle Delay** (defaulted to 5.0 seconds). The Remote Display goes back to streaming the live gross weight – current total axle weights.
7. System repeats STEPS 3-6 until the configurable **Last Axle Timer** (defaulted to 45.0 seconds) is expired, Maximum Axles is reached (7) or the **Finalize Ticket** touch widget is pressed, at which point the system does the following:
 - a. **Weigh In / Out** option
 - i. Enabled
 1. Prompts – “ID Required to Complete – Enter ID”. If an ID was already entered system goes to STEP 7.a.i.3.
 2. Driver enters the ID followed by the **DONE** touch widget.
 3. Queries the Inbound Database with the entered ID.
 - a. ID Found



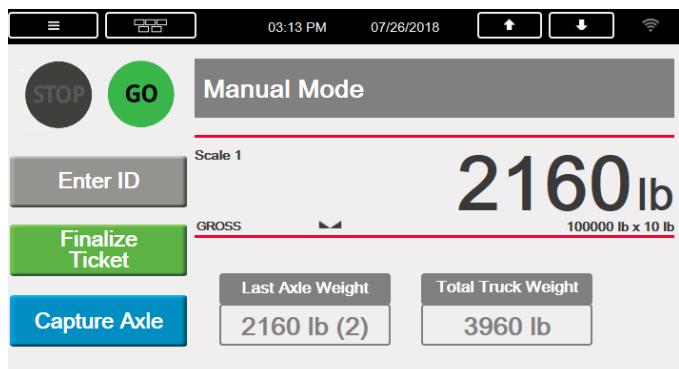
- i. Performs value swapping (if necessary)
- ii. Calculates Net based on the Inbound weighment.
- iii. Stores a record in the transaction database (*Deletes 25% of oldest records when full*).
- iv. Delete the Inbound weighment.
- b. ID Not Found
 - i. Stores a record in the Inbound database (*Deletes 25% of oldest records when full*).
- ii. Disabled
 - 1. Stores a record in the transaction database (*Deletes 25% of oldest records when full*).
The net fields in the database will be 0.
- b. Prints X copies of the Weigh Ticket. (X is **Number of tickets**). The Reprint touch widget allows the operator to print the previous Weight Ticket.
- c. The Remote Display shows the total axle's weight for the **Total Weight Remote Display Time** before it goes back to streaming the live gross weight.
- d. Traffic Light changes to **GREEN**.
- e. Sends a **GREEN** serial command to the Stop & Go Remote Display.

8. The truck may or may not be on the scale. Driver exits the scale.



Manual Axle Weighing (Short or Long)

- 1. Toggle the setting from **Auto** to **Manual** in the **Setup** menu (to disable the automatic weighing).
 - a. Displays – “Manual Mode” on main screen removing all message control
 - b. Disables automatic light changing. The lights are controlled by pressing the **Stop & Go** touch widgets.
 - c. Disables **Weigh In / Out** if enabled.
- 2. Press the **Capture** touch widget to store the current weight with the Manual Axle Number (starting at Axle #1, incremented each time **Capture** is pressed).
- 3. Press the **Finalize Ticket** touch widget after all axles have been manually weighed:
 - a. Prints X copies of the Weigh Ticket. (X is **Number of tickets**). The Reprint touch widget allows the operator to print the previous Weight Ticket.
 - b. Stores a record in the transaction database (*Deletes 25% of oldest records when full*). The net fields in the database will be 0.
 - c. Resets all the information for the next truck.



Serial Communications – Tickets, PC

Weigh Ticket (AuxFmt1,2,3)

The formats can be modified through the 1280 front panel or using a PC application called Revolution. Auxiliary Format #1, #2 and #3 make up the outbound weight ticket.

Truck ID	333
Axle # 1	4400 lb
Axle # 2	5160 lb
Axle # 3	10560 lb
Total	20120 lb
10:34PM MM/DD/YYYY	

Weigh Ticket (AuxFmt1,2,4 – Weigh In/Out enabled)

The formats can be modified through the 1280 front panel or using a PC application called Revolution. Auxiliary Format #1, #2 and #4 make up the outbound weight ticket.

Truck ID	999
Axle # 1	2770 lb
Axle # 2	4190 lb
Axle # 3	4320 lb
Total	11280 lb
Gross	11280 lb
Tare	6120 lb
Net	5160 lb
10:34PM MM/DD/YYYY	

User Strings

User strings can be added to any print format in Revolution to print that data on the ticket or transaction string. Add <Usn> to any print format where n represents the user string number.

User Strings	
User String 1 <US1>	Axle Number
User String 2 <US2>	Axle Weight
User String 3 <US3>	Scale Units
User String 4 <US4>	Truck ID
User String 5 <US5>	Total Weight
User String 6 <US6>	Time
User String 7 <US7>	Date

Rice Lake Stop /Go Green Light (AuxFmt19)

The message will be transmitted (Defaulted to Port 2). The format can be modified through the 1280 front panel or using a PC application called Revolution.

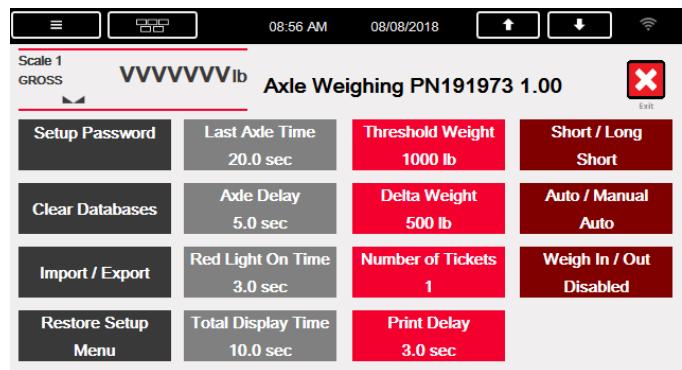
Rice Lake Stop /Go Red Light (AuxFmt20)

The message will be transmitted (Defaulted to Port 2). The format can be modified through the 1280 front panel or using a PC application called Revolution.

Application Setup & Configuration

The **Setup** touch widget is password-protected and offers access to the following:

- Display Program Name & Version
- Display a weight widget



Parameter	Default	Touch Widget	Description
System Password	“”	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 touch widget is pressed.
Clear Transactions or Inbound Database	-	Clear Trans DB	Clear Transaction or Weigh In database with a Yes/No option.
Import / Export	-	Import / Export	Used to export database to micro SD or USB drive.
Restore Settings	N/A	Restore Settings	Restores all setup menu parameters from a database that has been loaded into the indicator via Revolution or Interchange. The backup is automatically generated every time the operator exits the setup menu. The setup database can be exported and/or imported using the export/import function listed above. Once imported or downloaded press this to overwrite all parameters in this menu. THIS DATA IS NOT VERIFIED UPON RESTORE. It is verified when changed here within the setup menu but any alteration to the backed-up database will not be verified.
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.
Axle Delay	5.0 sec	Axle Delay	The delay between axles.
Red Light On Time	3.0 sec	Red Light On Time	To insure that the driver knows that the weighment was made and that the green proceed light is valid.
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.
Threshold Weight	1000 lb	Threshold Weight	The amount of weight the scale must exceed to trigger a weighment.
Delta Weight	500 lb	Delta Weight	Minimum weight change the indicator must see in order to recognize another axle.
Number of Tickets	1	Number of Tickets	Allow user to configure number of tickets printed with each transaction.
Print Delay	3.0 sec	Print Delay	Number of seconds between multiple tickets when Number of Tickets parameter is greater than one.
Toggle Short Axle / Long Axle	Short / Long	Short / Long	Allows user to toggle between long axle and short axle. Touch widget will read the currently selected mode.
Toggle Auto/Manual	Auto / Manual	Auto / Manual	Allows user to toggle between automatic weighing (with thresholds and timers) or manual (stores axles at the press of a touch widget – no traffic lights or in/out features available).
Toggle In/Out Enabled	Disabled / Enabled	Weigh In / Out	Allows user to weigh twice per ID for Gross and Net weighments per axle. Auto/Manual overrides this (if in Manual mode this is not possible even if enabled). If in Auto Mode and In/Out is enabled, it will store a inbound transaction the first time that ID is weighed, and the second time it will calculate the net and add the transaction to populate the net fields.

Database Tables

NOTE: System deletes 25% of oldest records when the inbound database reaches maximum capacity.

Inbound (“Inbound”) Database 1,000		
Field	Type	Description
ID	String	Truck Id – 15 alphanumeric
Gross1	Real	Axle 1 weight
Gross2	Real	Axle 2 weight (if applicable)
Gross3	Real	Axle 3 weight (if applicable)
Gross4	Real	Axle 4 weight (if applicable)
Gross5	Real	Axle 5 weight (if applicable)
Gross6	Real	Axle 6 weight (if applicable)
Gross7	Real	Axle 7 weight (if applicable)
TotalG	Real	Total gross weight
DT	Datetime	Time/date of weighment

NOTE: System deletes 25% of oldest records when the transaction database reaches maximum capacity.

Transaction (“Trans”) Database 10,000		
Field	Type	Description
ID	String	Truck Id – 15 alphanumeric
Gross1	Real	Axle 1 weight
Gross2	Real	Axle 2 weight (if applicable)
Gross3	Real	Axle 3 weight (if applicable)
Gross4	Real	Axle 4 weight (if applicable)
Gross5	Real	Axle 5 weight (if applicable)
Gross6	Real	Axle 6 weight (if applicable)
Gross7	Real	Axle 7 weight (if applicable)
TotalG	Real	Total gross weight
Net1	Real	Net weight of Axle 1 (not populated until second time Truck ID is weighed) – Weigh In Out Enabled Difference between first and second weighment
Net2	Real	Net weight of Axle 2 (if applicable)
Net3	Real	Net weight of Axle 3 (if applicable)
Net4	Real	Net weight of Axle 4 (if applicable)
Net5	Real	Net weight of Axle 5 (if applicable)
Net6	Real	Net weight of Axle 6 (if applicable)
Net7	Real	Net weight of Axle 7 (if applicable)
TotalN	Real	Total of all axles net weight (not populated until second time Truck ID is weighed)
DT	Datetime	Time/date of weighment

Hardware Setup

1280Screen Size/Type	
NIT	1280 Screen Size/Type (12" or 7.5")
500	7.5"

Option Card Locations	
Slot	Type
1	Single Channel A/D Card
2-6	Currently Not Used

Digital I/O			
Slot	Bit	Type	Function
0	1	OUTPUT	Green Light
0	2	OUTPUT	Red Light
0	3-8	Off	Currently Not Used

Serial Port			
Port	Type	Description	Setup
1	CMD	Printer	9600,8,N,1
2	CMD	Stop N Go Laser Light	9600,8,N,1

Ethernet TCP/IP Port			
Port	Type	Description	Setup
10001	CMD	Waits for connection from software/device i.e. Revolution or iNterchange	TCP Server
10001	CMD	Currently Not Used	TCP Client 1
10002	CMD	Currently Not Used	TCP Client 2
3000	CMD	Web Server	Web Server

USB Device Port			
Port	Type	Description	Setup
3	CMD	Currently Not Used	-

USB Type-A Port			
Port	Type	Description	Setup
-	CMD	Currently Not Used	-
-	CMD	Currently Not Used	-

SD Card Slot			
Port	Type	Description	Setup
-	CMD	8Gb Micro SD Card	Images

Bluetooth Port			
Port	Type	Description	Setup
4	CMD	Currently Not Used	-

Version Changes

Version	Changes	Date	Firmware
1.00	<ul style="list-style-type: none"> ▪ Initial Release 	10/12/2018	1.07
1.01	<ul style="list-style-type: none"> ▪ Removed PassCalc ▪ Fixed Capture Axle disappear after a power cycle ▪ Fixed Number of Tickets feature ▪ Added Last Axle Time to Back Up DB ▪ Documentation Updates 	02/27/2019	1.10
1.02	<ul style="list-style-type: none"> ▪ Fix to Enter ID Prompt 	05/07/2021	2.00
Download: <input checked="" type="checkbox"/> SC <input type="checkbox"/> N <input type="checkbox"/> TF <input checked="" type="checkbox"/> SP <input checked="" type="checkbox"/> W <input checked="" type="checkbox"/> DB <input checked="" type="checkbox"/> COD SC = Standard Configuration N = Network Configuration TF = Ticket Formats SP = Setpoints W = Widgets DB = Database Tables COD = Program			

