



2021

REMOTE DISPLAY QUICK START GUIDE v2.5

Belt-Way Scales Inc.			05/22/2015	00:17	
CV-3 PRIMARY	WEIGHT 517.73	RATE 905	SPEED 333	ZERO CAL	RESET TONS
CV-7 CONE	373.57	218	221	ZERO CAL	RESET TONS
CV-12 1/2 IN	390.07	835	333	ZERO CAL	RESET TONS
CV-14 3/4 IN	194.34	415	300	ZERO CAL	RESET TONS
CV-18 1 IN	28.31	212	360	ZERO CAL	RESET TONS
CV-21 FINES	361.22	188	222	ZERO CAL	RESET TONS
MENU	HELP	SCREENSHOT	DECIMAL PLACES: 2	ZERO ALL	RESET ALL

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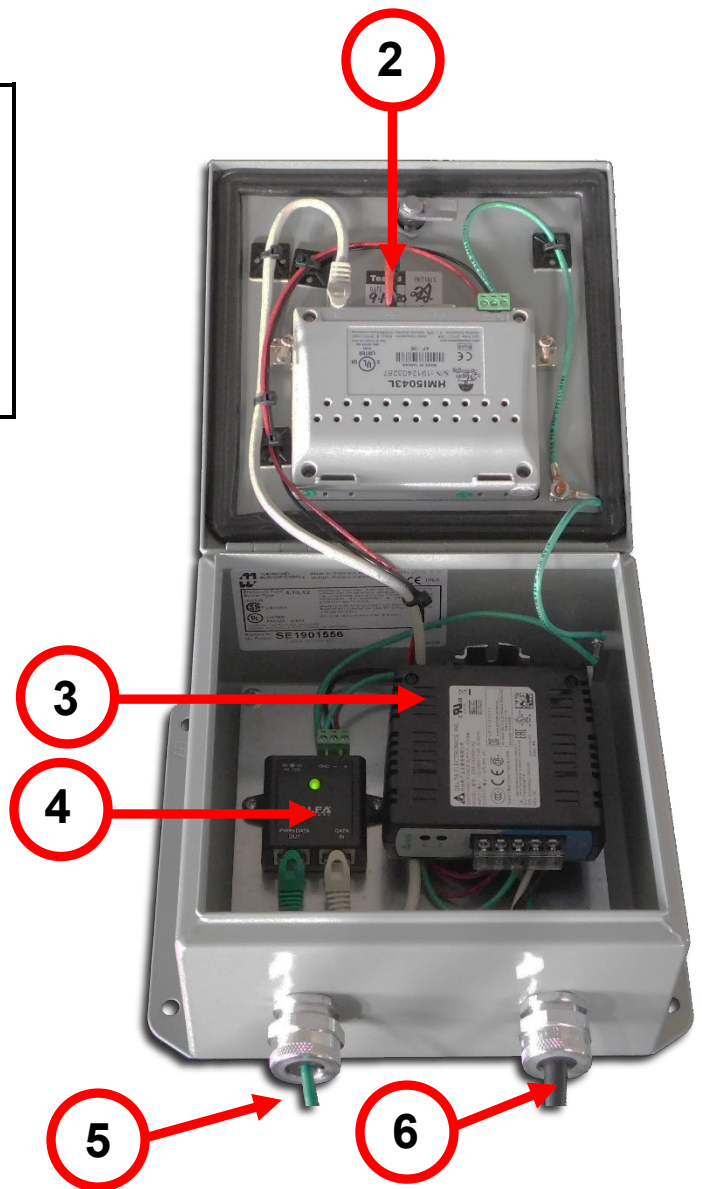
1. Introduction

The 4" or 7" Belt-Way Remote Display allows a plant operator to monitor multiple conveyor belt scales from a single location. The operator can reset scale totals and perform zero calibrations on all connected scales. The remote display also displays historical production information and records accumulated weight and flow rate data files to the included USB flash drive.

NOTE: The remote display is designed to communicate with the new style Belt-Way integrator ONLY! Older integrators will NOT work and must be upgraded prior to remote display installation!

2. What is in the Box?

1. 4" or 7" Touchscreen Display
2. USB Drive
3. 110 - 24 VDC Power Supply
4. Power Over Ethernet Adapter
5. Ethernet Cable and coupler
6. 110 AC Power Cord

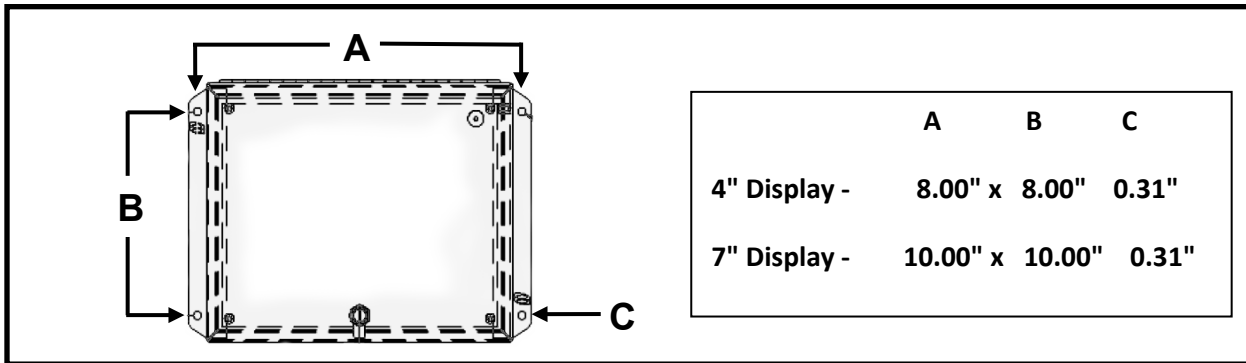


3. Display Specifications

Part Numbers: ASM0325 4" Remote Display ASM0294 7" Remote Display ASM0294-BASIC 7" Basic Remote Display	
Display Screen: 4" or 7" Color Touchscreen Max colors: 16 Million Resolution: 4" - 480x272, 7" 800x480 Power Requirements: 24 VDC @ 350 mA (110 / 220 - 24VDC Power Supply Included)	Communication Com ports: Ethernet Data Storage: 128 MB Internal 4 GB USB Flash Drive
Enclosure 4 inch Enclosure Dimensions: 8.5" x 6.5" x 4" 7 inch Enclosure Dimensions: 10.5" x 8.5" x 6"	Environmental Temperature Rating: 32- 122 °F Protection: IP65 (Nema 4) Suitable for Indoor Use only!

4. Installation Procedure

STEP 1: Mount the display enclosure so it is free of vibration and protected from direct sunlight.



Multiple scales and remote displays may be hardwire to a local area network or installed as part of a stand alone wireless network

Step 2A: WIRELESS ONLY - Connect Cat5e cable to Power Over Ethernet module

*The access point must be installed at the display.
Connect cable from access point to coupler on green cable.*



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Step 2B: HARDWIRE ONLY Connect CAT5e cable directly to the Display

Use coupler to bypass the Power over ethernet adapter.

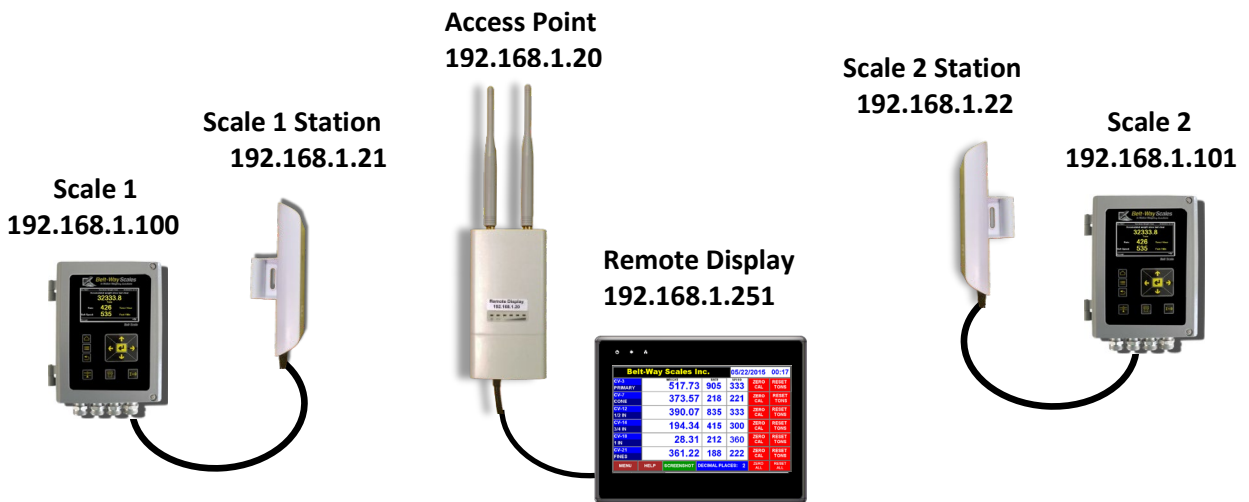


Step 3: Power the display. The display comes with a 110/220 AC to 24 VDC power supply. Plug the power cord into a grounded outlet. The display will turn on.

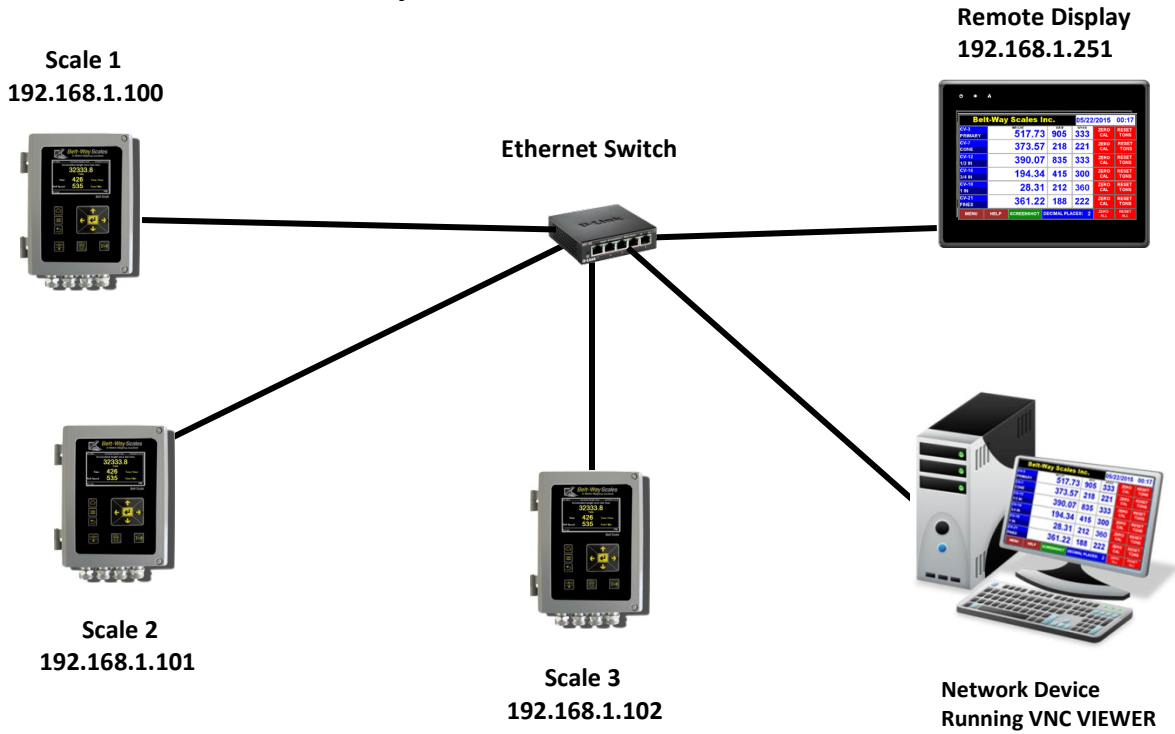
5. Network Setup

The scale network may be wireless or hardwired. The remote display, scale integrators, wireless transmitters and other devices on the network must have unique IP addresses.

Wireless Network Example:



Hardwire Network Example:



Cat5e cable segments MUST be less than 300 ft

6. Display Network Screen

The Network screen shows scale IP addresses currently programmed into the display. All devices must be on the same subnet (e.g. 192.168.1.XXX) but the 4th number must be unique. The default remote display IP address is **192.168.1.251**. Scale 1 defaults to **192.168.1.100**, Scale 2 defaults to **192.168.1.101**, etc. The Scale IP address **MUST MATCH** the actual IP address programmed into the scale control box.

The default **Slave ID value is 247**. It must match the Slave ID programmed into the corresponding control box. Each IP value may be modified by pressing the numeric input field. Click the **RESTART DISPLAY** button to reboot the display and save any IP Address and Slave ID changes. The new settings will take effect once the display restarts.

The display and scale IP addresses must be programmed on the same network. The first 3 numbers must be the same the 4th must be different. The default display address is 192.168.1.251. The default addresses for scales 1-6 are 192.168.1.100 to 105. The default Slave ID is 247 for all scales. These values must be programmed into each scale integrator for the display to show the correct information.

RESTART THE DISPLAY AFTER ALL CHANGES! RESTART DISPLAY

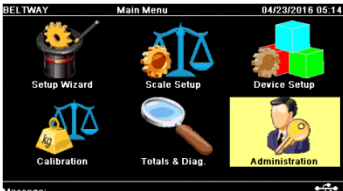
Remote Display IP Address:		Status:
192 168 1 252	Slave Id:	Red = OFF
Scale 1 IP Address:	247	Green = ON
Scale 2 IP Address:	247	Green = ON
Scale 3 IP Address:	247	Red = OFF
Scale 4 IP Address:	247	Red = OFF
Scale 5 IP Address:	247	Red = OFF
Scale 6 IP Address:	247	Red = OFF

MENU

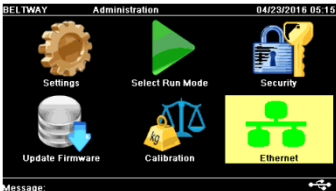
7. Integrator IP Address Setup

Program the IP address and Slave ID into each integrator. The first scale is usually left at the default address 192.168.1.100. Each additional scale must be changed to 192.168.1.101, 192.168.1.102, etc.

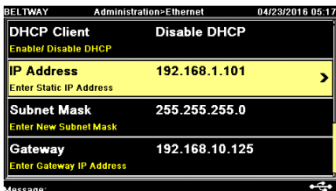
Press the **MENU** Button and choose **Administration**



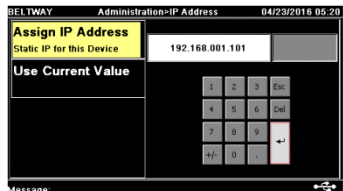
Next choose **Ethernet**



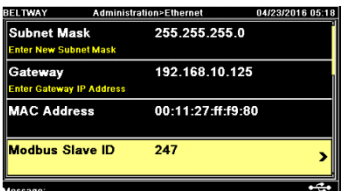
Arrow down to **IP Address** and press **Enter**



Arrow up to **Assign IP Address** and press **Enter**.
 Use the number pad to enter all 12 digits in the IP Address.
 You must enter leading zeros when the value is below 100.
 Move the cursor to the Enter Arrow and press **Enter** a final time to save the address.



Arrow down and make sure the **Modbus Slave ID is 247**



8. Main Screen

The main screen displays Total Weight, Tons Per Hour, and Belt Speed values. The standard display is programmed for 6 scales. The connection indicators show when each scale is connected to the remote display.

Belt-Way Scales Inc.				03/08/2016	11:20	
SCALE 1	■	WEIGHT 92.76	RATE 64	SPEED 96	ZERO CAL	RESET TONS
SCALE 2	■	1072.04	598	360	ZERO CAL	RESET TONS
SCREEN	■		0	0		RESET TONS
	■		0	0		RESET TONS
	■		0	0		RESET TONS
	■		0	0		RESET TONS
MENU	HELP	SCREENSHOT	DECIMAL PLACES: 2		ZERO ALL	RESET ALL

Use the blue buttons to label each scale or product. The keyboard appears when the button is pressed.

Use the **MENU** button to navigate to other display screens.

Use **RESET TONS** buttons to reset any scale weight to 0. The reset process takes about 5 seconds to complete.

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Main Screen part 2

Scale Connection Status Indicator
 Each scale has a connection indicator. The indicator is **GREEN** when the scale is connected and the data is updated. The indicator is **RED** when the scale is not connected and displayed data may not be updated to the most current values. This can be caused by several conditions such as power loss, wireless network failure, damaged Ethernet cables, etc.

Belt-Way Scales Inc.				03/08/2016	12:08
SCALE 1	WEIGHT	RATE	SPEED		RESET TONS
PRIMARY	103.16	0	0		RESET TONS
SCALE 2	1549.71	598	360	ZERO CAL	RESET TONS
SCREEN		0	0		RESET TONS
		0	0		RESET TONS
		0	0		RESET TONS
		0	0		RESET TONS
		0	0		RESET TONS
MENU	HELP	SCREENSHOT	DECIMAL PLACES: 2	ZERO ALL	RESET ALL

Use the **SCREENSHOT** button to save a copy of the screen to the USB flash drive. The file is saved as a bitmap in the Hardcopy folder. The filename is **YYMMDD_0000.bmp**

Use this button to adjust the Weight decimal places to 0,1 or 2.

ZERO ALL or RESET ALL
 Perform functions on all scales.

Zero Calibration Procedure

The Zero Calibration should be performed when a scale continually accumulates or subtracts weight while the belt is empty.

THE BELT MUST BE RUNNING EMPTY BEFORE STARTING THE ZERO CALIBRATION!

Step 1:
 The **ZERO CAL** button appears only when the belt is running.
 Make sure each belt is running empty.
 Press **ZERO CAL** to initiate the **ZERO CALIBRATION** on a single scale or **ZERO ALL** to calibrate multiple scales.

Belt-Way Scales Inc.				03/08/2016	11:30
SCALE 1	WEIGHT	RATE	SPEED		RESET TONS
PRIMARY	103.16	0	0		RESET TONS
SCALE 2	1172.70	598	360	ZERO CAL	RESET TONS
SCREEN		0	0		RESET TONS
		0	0		RESET TONS
		0	0		RESET TONS
		0	0		RESET TONS
		0	0		RESET TONS
MENU	HELP	SCREENSHOT	DECIMAL PLACES: 2	ZERO ALL	RESET ALL

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Step 2:

Press **OK** to confirm and proceed with the ZERO CALIBRATION.

Belt-Way Scales Inc.				03/08/2016	13:16
SCALE 1	WEIGHT	RATE	SPEED	ZERO CAL	RESET TONS
PRIMARY	49.63	67	100		
SCALE 2	WEIGHT	RATE	SPEED	ZERO CAL	RESET TONS
SCREEN	574.54	598	360		
	<div style="border: 1px solid gray; padding: 5px; width: fit-content; margin: auto;"> ? Do you wish to proceed ? <input type="button" value="OK"/> <input type="button" value="Cancel"/> </div>				RESET TONS
		0	0		RESET TONS
		0	0		RESET TONS
MENU	HELP	SCREENSHOT	DECIMAL PLACES: 2	ZERO ALL	RESET ALL
SCALE 1	WEIGHT	RATE	SPEED	RUNNING	RESET TONS
PRIMARY	54.71	67	100		
SCALE 2	WEIGHT	RATE	SPEED	RUNNING	RESET TONS
SCREEN	620.65	598	360		
		0	0		RESET TONS
		0	0		RESET TONS
		0	0		RESET TONS
		0	0		RESET TONS
MENU	HELP	SCREENSHOT	DECIMAL PLACES: 2	ZERO ALL	RESET ALL

Step 3:

Each indicator turns **green** and displays **RUNNING**. They automatically return to normal when each scales ZERO CALIBRATION process completes.

THE ZERO CALIBRATION SHOULD BE PERFORMED A MINIMUM OF ONCE PER DAY OR AS NEEDED DEPENDING ON WEATHER CONDITIONS, BELT CONDITIONS, MECHANICAL CHANGES TO THE CONVEYOR, ETC.

9. Menu

The Menu allows access to all other display screens.

TPH Graph	Weight Graph	Time & Date
Cal Data	Totals	USB
Main Screen	Network	Setup

10. Cal Data

The Cal Data Screen shows important calibration information including Previous Trim Factor, Current Trim Factor, Trim Factor Difference, Previous Zero Value, Current Zero Value, and Belt Length. The Zero Value changes each time the Zero Calibration is performed. All other calibration values are read only.

Calibration Data	Previous Trim Factor	Current Trim Factor	Trim Factor % Difference	Previous Zero Value	Current Zero Value	Belt Length
CV-3	1.000	0.835	0.0	8.9	7.7	10
CV-7	2.000	0.550	0.0	1.0	16.3	26
CV-12	1.000	1.500	50.0	531.4	593.1	222
CV-14	1.152	1.660	10.5	-28.0	130.3	222
CV-18	1.000	1.000	1.0	9.0	8.6	1
CV-21	0.947	0.947	-10.8	-46.9	105.4	400

MENU HELP SCREENSHOT

11. Totals

The Totals Screen shows accumulated weight totals for all scales. The Job Total may be manually reset at any time. The Daily, Weekly, Monthly, and Yearly totals reset automatically according to the belt scale's internal clock and calendar.

BASIC DISPLAY

The basic display allows the user to view all scale totals and Reset the Job total.

Scale Totals	Job	Daily	Weekly	Monthly	Yearly
CV-3	RESET JOB 1028	1026	1028	1028	1028
CV-7	RESET JOB 188991	428	11144	188986	188986
CV-12	RESET JOB 0	10374	0	0	0
CV-14	RESET JOB 0	5167	0	0	0
CV-18	RESET JOB 65253	2615	17758	65253	65253
CV-21	RESET JOB 37757	7890	34236	34236	37757

MENU HELP SCREENSHOT

FULL FEATURE DISPLAY

The full feature display allows the user to also save a totals report and download it to the USB drive.

Scale Totals	Job	Daily	Weekly	Monthly	Yearly
SCALE 1	RESET JOB 620	620	620	620	620
SCALE 2	RESET JOB 32	32	32	32	32
SCALE 3	RESET JOB 85	85	85	85	85
SCALE 4	RESET JOB 75	75	75	75	75
SCALE 5	RESET JOB 0	0	0	0	0
SCALE 6	RESET JOB 36	36	36	36	36

Manually Save Totals Report: SAVE REPORT RESET ALL TOTALS

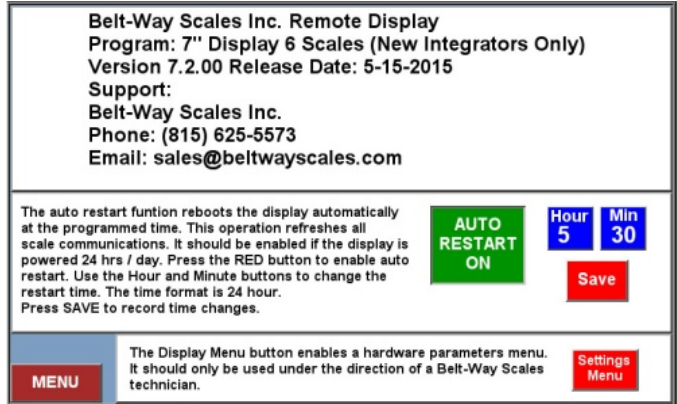
Manually Backup Totals Report: BACKUP TO USB

MENU HELP SCREENSHOT

12. Setup

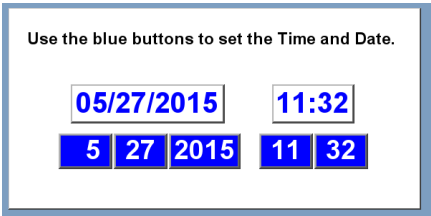
Setup shows the current version of the remote display software.

Example: 7.3.06 (7" Display, Version 3.06) There is also an automatic restart feature that should be activated if the display is powered continuously for 24 hours per day. The restart time should be a few minutes before the normal plant start-up time. Press the SAVE button to record changes.



13. Time and Date

Use the blue buttons to manually adjust the Time or Date.



14. Connection Status

The Connection Status Screen continually monitors which scales are connected to the remote display. The scale number 1-6 is saved as long as the scale is connected to the remote display. A 0 is saved as soon as the scale disconnects. Up to 14 days of past status records can be viewed.

Date Selector

Time	Date	Scale 1	Scale 2	Scale 3	Scale 4	Scale 5	Scale 6
11:54:44	08/03/16	1	0	0	0	0	0
11:54:34	08/03/16	1	0	0	0	0	0
11:54:24	08/03/16	1	2	0	0	0	0
11:54:15	08/03/16	1	2	0	0	0	0
11:54:04	08/03/16	1	2	0	0	0	0
11:53:54	08/03/16	1	2	0	0	0	0
11:53:44	08/03/16	1	2	0	0	0	0
11:53:34	08/03/16	1	2	0	0	0	0
11:53:24	08/03/16	1	2	0	0	0	0
11:53:14	08/03/16	1	2	0	0	0	0

03/08/16

04:00 05:00 06:00 07:00 08:00 09:00 10:00 11:00 12:00

BACK SAVE TO USB

0 shows when a scale is disconnected from the remote display.
 1 - 6 shows when a scale is connected.

A line appears for each scale when connected.

15. Total Production, TPH, and Belt Speed Reports

THIS FEATURE IS NOT AVAILABLE IN THE BASIC DISPLAY

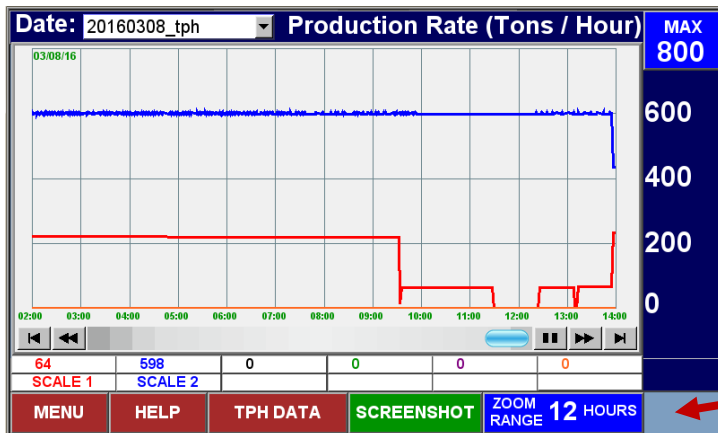
The graphing screens show the trend of accumulated weight, tons per hour, or belt speed over time. The readings are logged once per minute. Each graph is independently scaled using the Max button. The Date menu allows viewing of 90 days of past files. The graph is 12 hours wide. Use the scroll arrows to move back and forth on a given day. Click on the screen to show the exact values of each scale at any point. The SCREENSHOT button creates a picture copy of the graph on the USB flash drive. Screenshots are bitmap files that can be opened in any picture viewing PC software. The file name is **YYMMDD_0000.bmp** (Year, Month, Day). The files are saved in the Hardcopy folder on the USB.

Use the Date selector to choose which day to view.

Click on the graph to view values at a specific time. The watch line appears and the values for each scale populate below the graph.



13882	4072	29695	14883	43431	9288
CV-3	CV-7	CV-12	CV-14	CV-18	CV-21



Use the **MAX** button to adjust the upper range of the graph.

Use the **ZOOM RANGE** button to adjust the time range of the graph from 1-24 hours.

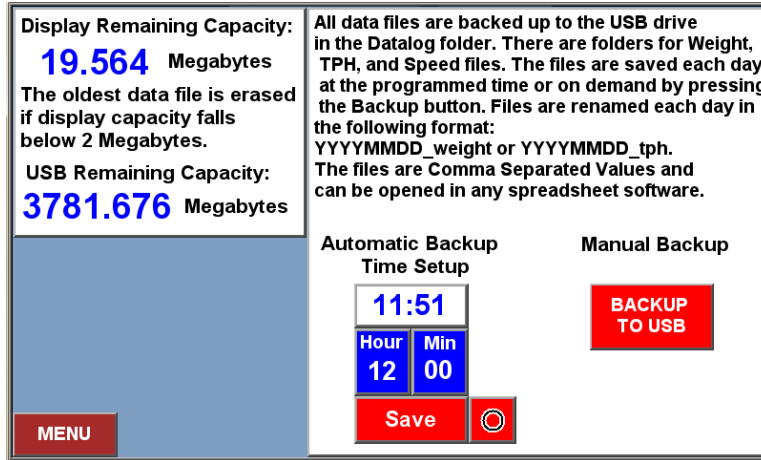
Click the **DATA** button to view the raw data records.

Time	Date	Scale 1	Scale 2	Scale 3	Scale 4	Scale 5	Scale 6
23:59	21/05/15	914	0	835	415	210	685
23:58	21/05/15	914	0	835	415	210	678
23:57	21/05/15	914	0	835	415	210	678
23:56	21/05/15	914	0	835	415	210	678
23:55	21/05/15	914	0	835	415	210	678
23:54	21/05/15	914	0	835	415	210	678
23:53	21/05/15	914	0	835	415	210	678
23:52	21/05/15	914	0	835	415	210	678
23:51	21/05/15	914	0	835	415	210	678
23:44	21/05/15	914	0	835	415	210	685
23:50	21/05/15	914	0	835	415	210	678
23:49	21/05/15	905	0	835	415	210	678
23:48	21/05/15	905	0	835	415	210	678
23:47	21/05/15	905	0	835	415	210	678
23:45	21/05/15	914	0	835	415	210	678
23:44	21/05/15	914	0	835	415	210	685
23:43	21/05/15	914	0	835	415	210	685
23:42	21/05/15	905	0	835	415	210	678
23:41	21/05/15	905	0	835	415	210	678
23:40	21/05/15	905	0	835	415	210	678
23:39	21/05/15	905	0	835	415	210	678
23:38	21/05/15	905	0	835	415	210	678
23:37	21/05/15	905	0	835	415	210	678
23:36	21/05/15	905	0	835	415	210	678

16. USB

THIS FEATURE IS NOT AVAILABLE IN THE BASIC DISPLAY

The USB screen shows the remaining capacity for the display's internal memory and the USB flash drive. The data log files are saved to the internal memory and backed up to the USB flash drive each day at 12:00 pm. The display will automatically erase the oldest files if the internal memory drops below 2 megabytes.



The files are saved on the USB under the data log folder and either the tph file folder or weight file folder. The data files are saved as CSV (comma separated values) and may be viewed in Excel or other spreadsheet software.

The files are saved by date and named in the following format:

YYYYMMDD_weight.csv , YYYYMMDD_tph.csv, YYYYMMDD_speed.csv

TPH Example

Date	Time	Millisecond	Scale 1	Scale 2	Scale 3	Scale 4	Scale 5	Scale 6
6/4/2015	10:48:46	840	0	0	0	125.0671	0	210.3235
6/4/2015	10:49:47	180	0	768.8689	0	125.0671	0	210.3235
6/4/2015	10:50:46	900	746.0709	768.8658	0	125.0671	0	210.3235
6/4/2015	10:51:46	890	746.0709	768.8116	0	125.0671	0	210.3235

Weight Example

Date	Time	Millisecond	Scale 1	Scale 2	Scale 3	Scale 4	Scale 5	Scale 6
6/8/2015	0:00:46	840	322093	123992	0	52479	0	84892
6/8/2015	0:01:46	890	322106	123993	0	52481	0	84896
6/8/2015	0:02:46	890	322119	123993	0	52483	0	84899
6/8/2015	0:03:46	860	322132	123994	0	52486	0	84902

17. VNC VIEWER

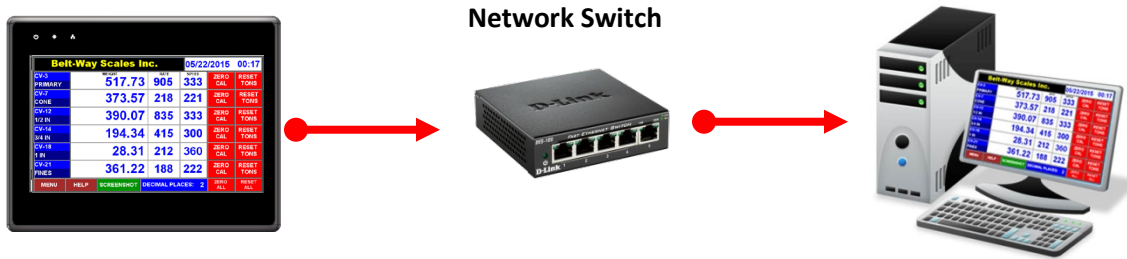
THIS FEATURE IS NOT AVAILABLE IN THE BASIC DISPLAY*

The remote display can be monitored from **one or two** PC's, smart phones, or tablets running **VNC VIEWER (Virtual Network Computing)** software.

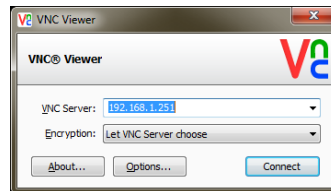
VNC Viewer is an inexpensive program that can be downloaded from www.realvnc.com, the iTunes App store or Google Play App store. Each device must be connected to the same hardware or wireless network and have a similar IP address (e.g. 192.168.1.XXX) as the remote display. Various VNC Viewers look slightly different but work the same.

Beltway Scales does not offer support on third party software. Use at your own risk.

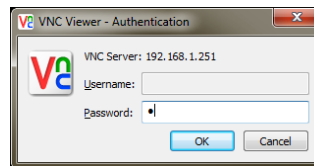
Example 1: Local Area Network Only



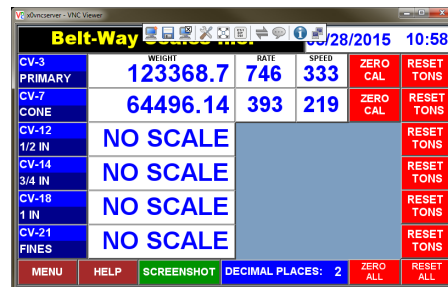
Step 1: Start the VNC Viewer and enter the IP address of the remote display. The default is 192.168.1.251.



Step 2: Enter the default password of "1".



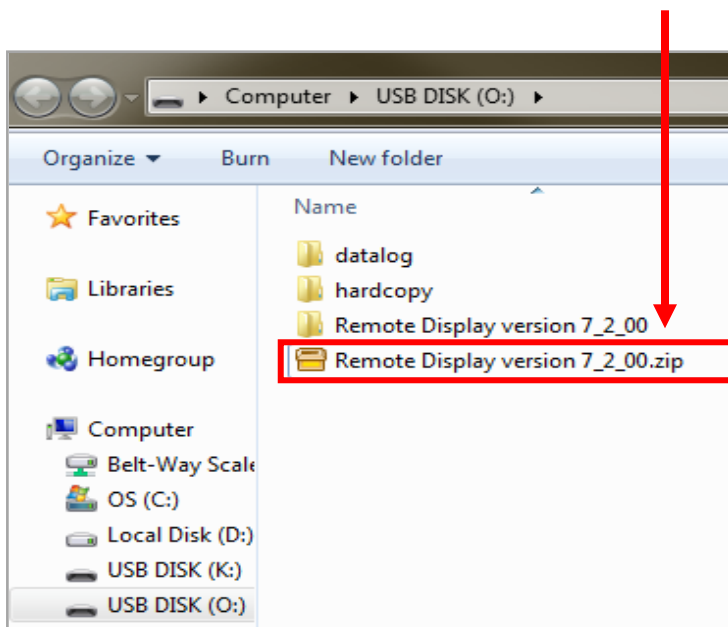
Step 3: VNC Viewer will start. You can manipulate all features of the display through the VNC Viewer application.



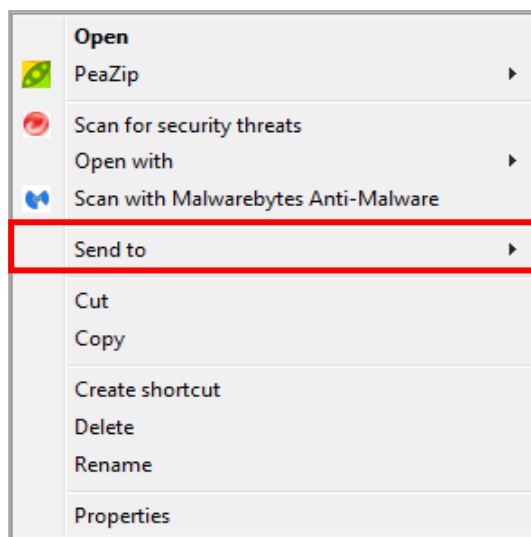
18. Download Software Update

Updates to the display can be downloaded from the USB drive.
The update files are emailed from Belt-way as Zip files.

Step 1: Remove the USB drive from the display and plug it into the computer.
Download the Zip file from the email and save it on the USB drive.



Step 2:
Right click on the Zip file and click **Send to**.

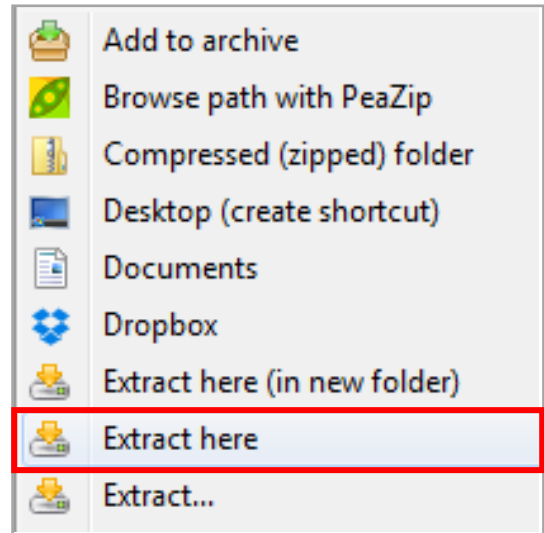


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Step 3:

Click **Extract here**.

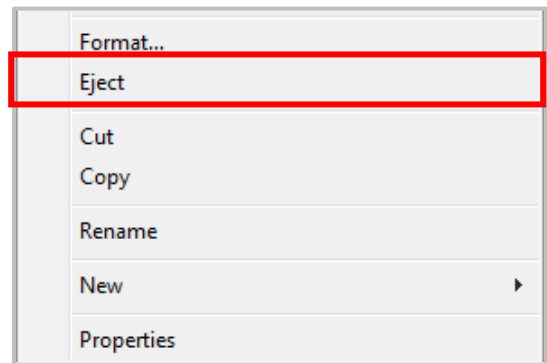
Follow the steps to save the Zip file as a new folder on the USB drive.



Step 4:

Right click on the USB drive and choose **Eject**.

Remove the USB drive from the computer.



Step 4:

Insert the USB drive into the display USB port.

The Download menu appears and remains on the screen for 10 seconds. Click **Download**.



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Step 5:

Use the keyboard to enter the default password of "1".



Step 6:

The **Pick a Directory** window appears. **Double click** the **usbdisk** folder. **Double click** the **disk_a_1** folder. **Single click** to highlight the update folder and click Ok. The display will automatically restart and run the new program.

