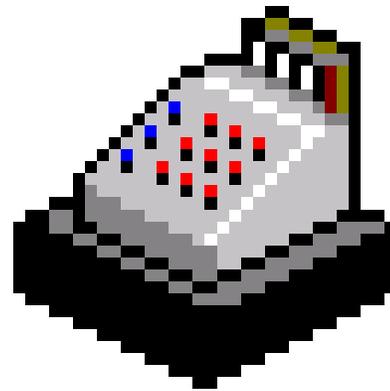


# Bakery Systems, Inc. CheckManager for Doughsaver/Validator Systems



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## Overview

The CheckManager software is designed to allow central data control of multiple Doughsaver<sup>®</sup> or Validator<sup>®</sup> bread loaf checkweighers over an Ethernet network. The supervisor can edit products and target weights on the pc and then download to the Validators.

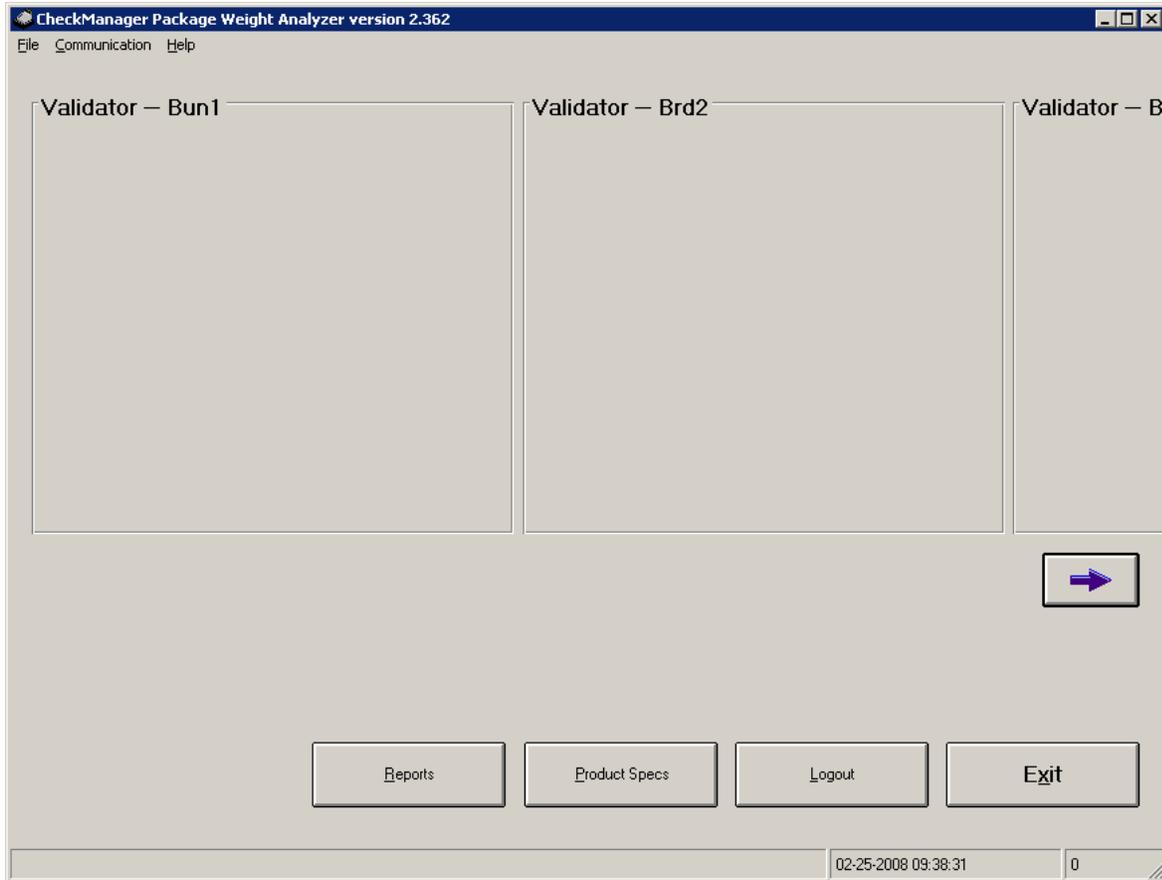
The Doughsaver and Validator controllers are described in separate manuals. These controllers and the CheckManager pc are linked through their respective ethernet ports on a Local Area Network. As the Doughsaver and Validator weigh packages, they store the weight data in ASCII text files.

Doughsaver is a computer, and stores its files on its own hard drive or a network drive. The Validators send weight data to a collection program, called BSIDownloader, that must be running somewhere on the network, generally on the same computer where CheckManager is installed. BSIDownloader stores its files on a network or local drive. CheckManager analyzes and reports on the data in these files.

CheckManager may also be used to edit product information, like target weights and tolerances, which are stored in an Access database table. Once you edit product information in CheckManager, use BSIDownloader to send the changes to the Validators.

## Operation

Select the CheckManager icon from the Programs menu in Windows to start the program. The main screen looks like this:



## Tables:

The product list is stored in a Microsoft Access database table with one record for each variety. You can edit the table by clicking the Product Specs button on the main screen. (You may also, if desired, edit the file using Microsoft Access). The tables window will come up:

**Tables**  
File Edit View Help

**Products (Only Validator Fields)**

UPC ^	Variety Name	unit	tare	Gross PKG Weight	Min Accept	Max Accept
▶ 1003800143	35810 PRICE CHOPPER WHT SAND	0	0.25	20	20	29
1111003482	18088 DILLONS WHITE SA	120	0.27	24	24	31
1111003483	18087 DILLONS TEXAS TO	120	0.27	24	24	31
1111003484	18082 DILLONS CR WHT SAND	0	0.24	24	24	29
1111003485	18084 DILLONS HB SANDWICH	0	0.26	24	24	29
1111003486	18080 DILLONS LARGE	0	0.22	20	20	25
1111003487	18081 DILLONS 20oz CRWHEAT	0	0.31	20	20	25
1111003488	18083 DILLONS HB 20oz	0	0.28	20	20	25
1111003490	18047 DILLONS SPLIT WHEAT	0	0.22	20	20	25
1111003491	18059 DILLONS CB SEED	211	0.17	13	13	18
1111003492	18056 DILLONS CONEY	227	0.17	12	12	17
1111003493	18055 DILLONS CB	211	0.16	13	13	18
1111021501	18540 FMV 16OZ WHITE	110	0.23	16	16	21
1111021502	18540 FMV WHEAT	0	0.25	16	16	21
1111021503	18541 FMV 8CT CB	211	0.16	13	13	18
1111021504	18542 FMV 8CT CC	227	0.18	12	12	17
1116144815	39420 1# SHURFRESH WHI	110	0.23	16	16	21
1116144830	39436 SHURFRESH 8CT CO	227	0.2	12	12	17
1116144883	39440 3-3/4 SHURF HAM	211	0.16	12	12	17
2454009820	24254 HYVEE WHEAT SAND	103	0.26	24	24	31

Press F2 to edit

Exit

The Products query above only has seven fields visible, even though there are actually more fields in the table. Only the fields necessary for the Validators are shown in the specs query. If you want to view all fields for any reason, the View Menu will allow you to display other queries. The **Products** query shows everything.

From this screen, use the mouse or the cursor keys to move around from field to field.

**Creating a new product:** You can copy all fields of an existing product to create a new product by selecting **edit → Create a New Product**. You can also add a new record by typing the data in the "add" record at the bottom of the list. This record is marked with an asterisk. As soon as you start typing new data in this record, a new record will be added to the table.

7874228543	34506 1-1/2#G V WHEAT S	103
7874228550	34503 6"GRT VALU HD 8C	227
7874228551	34502 3-3/4GRT VALU HM	211
7874236690	21430 GV 100% WW	144
9755300001	23602 HOMELAND 16 OZ EXP	0
9755300039	23607 HOMELAND 24 WHT SAND	0
9755300102	23623 HOMELAND 8CT CB	211
*		



Delete old records by selecting the **Delete Record** option from EDIT or by pressing ctrl-D. You can delete multiple records by selecting them on the screen. To select a range of records,

click in the grey area to the left of the first record, then hold down the shift key and click on the last record. The screen will look like this:

Products					
	Dough Code	UPC	unit	Dough Name	Variety Name
	01	001BB001002	4	22 OZ PREMIUM	22 OZ PREMIUM
	02	002BB001001	3	20 OZ LEAN	20 OZ LEAN
▶	03	005BB007001	16	YELLOW POTATO	YELLOW POTATO
	04	006BB008001	5	DI PLAIN	DI PLAIN
	05	006BB008002	10	DI SEEDED	DI SEEDED
	06	008BB008001	6	MAIERS PLAIN	MAIERS PLAIN
	07	009BB008001	12	MAIERS SEEDED	MAIERS SEEDED
	08	012BB001001	15	BUTTER TOP WHITE	BUTTER TOP WHITE
	09	002BB001002	14	22 OZ PRIVATE LABEL	22 OZ PRIVATE LABEL
	103	FG100	17	100% FAMILY GRAINS	100% FAMILY GRAINS
	104	FGHw	18	FG HONEY WHEAT	FG HONEY WHEAT
	105	FGMulti	19	FG MULTI GRAIN	FG MULTI GRAIN
	106	FGHoney	20	FG HONEY OAT	FG HONEY OAT
	107	FGWhite	21	FG WHITE WHOLE WHEAT	FG WHITE WHOLE WHE
	108	002BB002001	22	20 OZ 13" LEAN	20 OZ 13" LEAN

Then click **edit** → **delete** or **ctrl-d** to delete the range.

Edit existing records by just typing over the old data. As soon as you type new data in a field, you'll notice a little writing-pen icon appear in the grey box at the left of the record. This indicates you are changing that record. Once you hit the up or down arrow to move off the record, your changes will be written and the writing-pen icon will disappear. You don't have to do anything else to "save" the information. It's already saved in the database as soon as you move off the record. If you type something and then decide you don't want to save it, hit ESC.

To sort the list by a particular field, click on the field name at the top of the column. You will see the order change.

**Downloading:** Remember, once changes have been made to the product table, you need to download to the Validators before those changes are reflected on the plant floor. See the section of this manual that describes BSIDownloader.

Each record (line) represents one type of finished product. Each field contains a piece of information about the product as follows:

**Dough Code:** The main sorting identifier for Doughsaver. Dough of a specific dough code may be made into multiple varieties, each with its own UPC code and Variety name. This means multiple records may have the same dough code.

**UPC:** The Variety Code. This number uniquely identifies the product and is used as a file prefix for the ASCII log file created by BSIDownloader. This number is one of the fields downloaded to the Validator to uniquely identify the product. When loaves pass by the Validator's UPC bar code scanner, the scanner reads this code. Then the Validator looks for that number in its internal product table. (The internal product table is downloaded from the computer). If the UPC code is found, that becomes the new current product. See the Validator manual for further details.

**Unit:** This field may be used for one of several purposes. Generally, a user fills it in with a unique number for each record. Once downloaded to the Validators, this number may be typed in by the operator for manual lookup. This would be used in a case where there is no readable

UPC code on the bread bag, and the operator needs to manually set the current product. An SKU number could be used in this field. See the Validator manual for further details.

Optionally, the field may be used just to sort the records for display on the Doughsaver or Validator screens if alphabetical or numeric/ID sorting is not desired.

**Dough Name:** Unique product name for the Dough type.

**Variety Name:** Unique product name for the Variety. Also known as the packaging name.

**Tare:** Optional empty container weight used by Validator. If used, it should be equal to the weight of the bag and twist-tie. If loaves are being weighed before bagging, this number should be zero.

**Gross PKG Weight:** Target weight used by the Validator. This is what an ideal loaf of this product weighs.

**Raw Low Tolerance:** Doughsaver low tolerance. If rejects are enabled, this number is subtracted from target weight to determine the minimum weight under which a dough ball will be rejected.

**Raw High Tolerance:** Doughsaver High tolerance. If rejects are enabled, this number is added to target weight to determine the maximum weight over which a dough ball will be rejected.

**Min Accept:** Minimum acceptable weight value. Any single bread loaf under this weight, the validator will reject the loaf. Enter an absolute value here, not an offset.

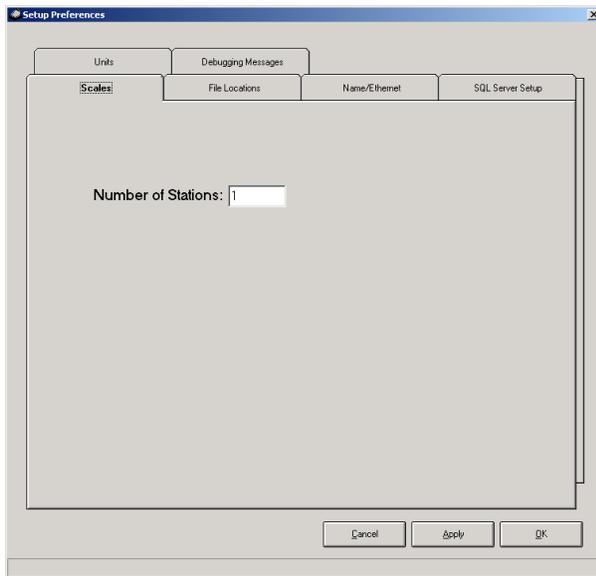
**Max Accept:** Maximum acceptable weight value. Any single bread loaf over this weight, the validator will reject the loaf. Enter an absolute value here, not an offset.

## Options



From the main screen, click on  to change program options. You will see the Setup Preferences screen. Click on the Scales tab to setup communication parameters and station number.

### Scales Tab



You can change the number of active stations on this tab. A single CheckManager computer with 3 Validator scales counts as 3 stations. The files for each scale are stored in a separate folder. These individual folder names are set on the **Reports** screen. They must match the BSIDownloader store paths (see later in this manual for instructions on setting up BSIDownloader).

### File Locations Tab

The database file path (below) should point to the location of the product database file used by CheckManager. This is the file you edit when you click **Product Specs** from the main screen.

Units      Debugging Messages

Scales      **File Locations**      Name/Ethernet

Database File Name

Database File Path

(Change Log Files paths on the reports screen...)

Password

A password box also appears on this tab. If you want to restrict access to setup parameters, enter a password here. Users will then have to click the login button on the main screen and type the password before they will be allowed to enter setup. The report screen is also password-protected.

### Name/Ethernet Tab

On this tab, enter a descriptive name for each Validator Checkweigher. In the example below, we've described our three Validators as Bun1, Brd2 and Brd3. The DS box specifies a unit as a Doughsaver instead of a Validator.

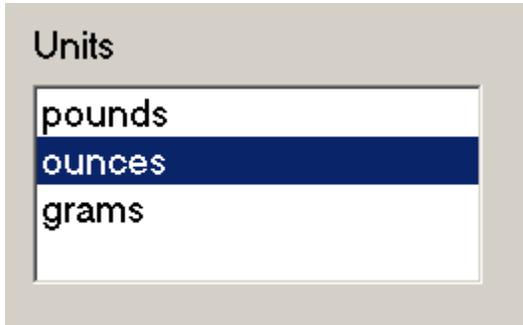
Units      Debugging Messages

Scales      File Locations      **Name/Ethernet**      SQL Se

	Name	DS	Download Now	Port	IP Address
Unit 1	<input type="text" value="Bun1"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="10012"/>	
Unit 2	<input type="text" value="Brd2"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="10012"/>	
Unit 3	<input type="text" value="Brd3"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="10012"/>	

## Units

Select the weight units (pounds, ounces, or grams.). These should be the same units used on the Validator.



A screenshot of a software interface showing a dropdown menu titled "Units". The menu is open, displaying three options: "pounds", "ounces", and "grams". The "ounces" option is highlighted with a dark blue background, indicating it is the selected unit.

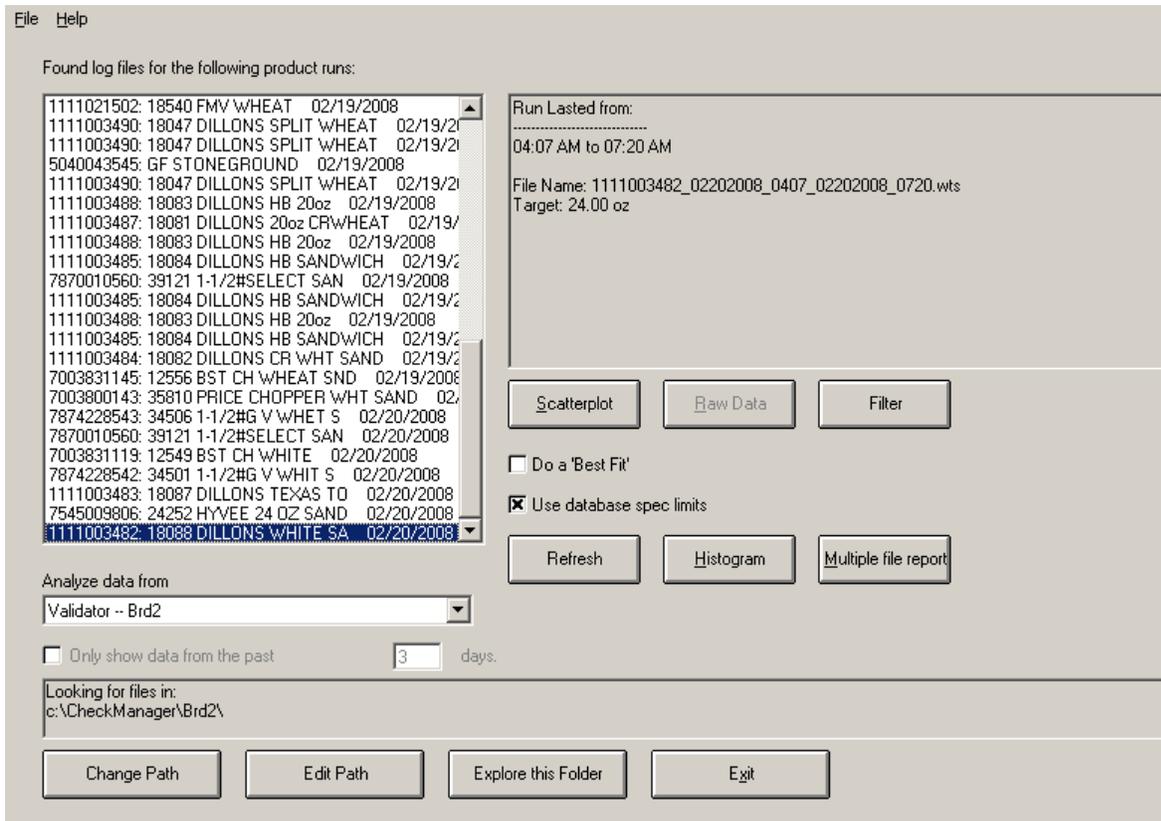
## SQL Server Setup

This tab is only used if you are saving data to an SQL reporting system.

# Reports



Click **Reports** or the **Reports** button from the main menu to see the reports dialog box. This screen allows you to view data which has been logged by Doughsaver or BSIDownloader.



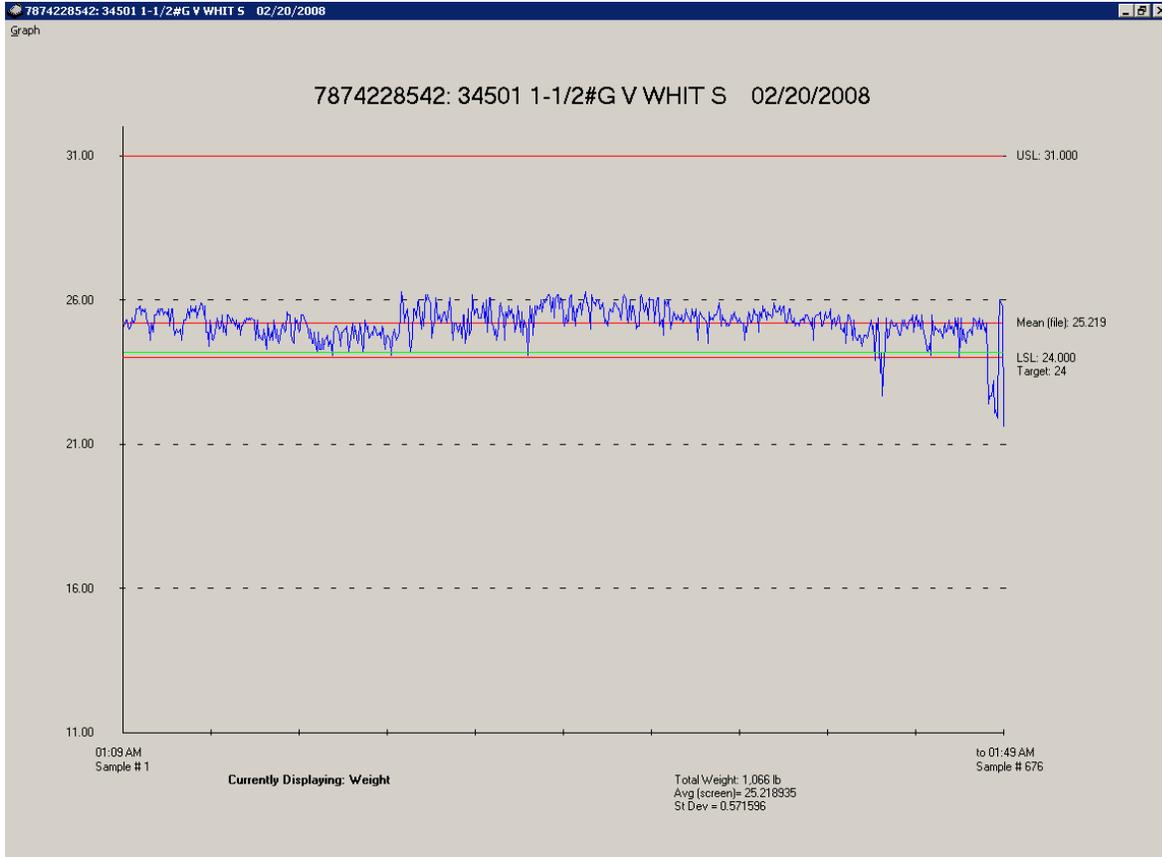
The list box on the left, labeled **Analyze data from**, lets you pick the line whose log files you want to view (A line may be either a Doughsaver or a Validator). In the example above, it is set to the Brd2 Validator line. If you pick another line using this list box, you will notice the folder name in the box below will change. Each line remembers its own folder location for looking up files. If you want to change the folder for this line, click the **Change Path** button, and explore until you find the correct folder.

The folder shown under “Looking for files in” should be the same folder in which BSIDownloader stores its log files for line Brd2. This folder can be anywhere on the network as long as the same folder is used by BSIDownloader and CheckManager. You can start up Windows Explorer in this folder by clicking **Explore this Folder**.

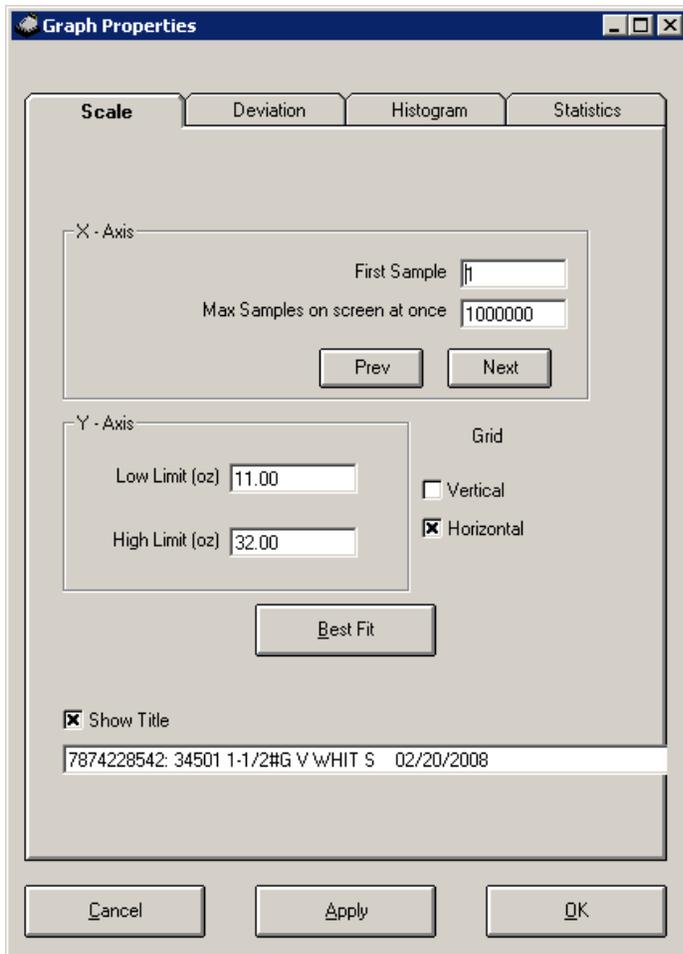
If your folders are set up correctly, when you change Validator lines, you should see a list of log files in the large white box called the run list. Click on a file to see the corresponding data for that file in the description box on the right. This box will tell you the name of the file, the target weight for the product, and the length of time the run lasted. Once you select a file, you can click on  to

view the actual ASCII file, or [Scatterplot](#) to see a graph of the data. A sample scatterplot graph is shown below:

## ScatterPlots

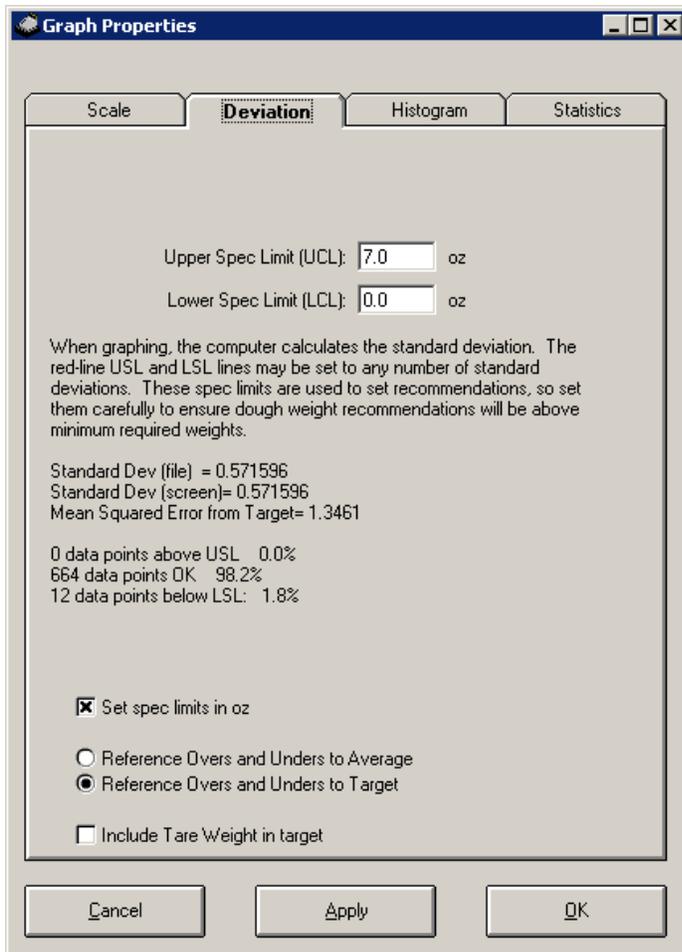


To customize the graph, select Properties from the Graph menu. You will see the graph properties dialog, which looks like this:



The X-Axis fields allow you to view all or only part of the data at a time. This is useful for very large data files. To view the entire file, enter 1 as the first sample, and make the Maximum Samples on screen a number larger than the number of data points in the file. To view only a portion of the file, set Max Samples to a smaller number. Then, the NEXT and PREV buttons let you page back and forth through the file, moving in steps of size: MAX SAMPLES.

The Y-Axis fields allow you to adjust the vertical range of the graph. BEST FIT will pick a vertical range so as to show all data points in the file. You may check boxes to show the grid and title, if desired.



The second tab displays some statistical information about the file. The mean is shown on the graph, and is simply the sum of all data points divided by the number of data points. Standard deviation is calculated by averaging the square of the difference between each data point and the average value, and then extracting the square root. Mean squared error from target is calculated by averaging the square of the difference between each data point and target weight, and then extracting the square root.

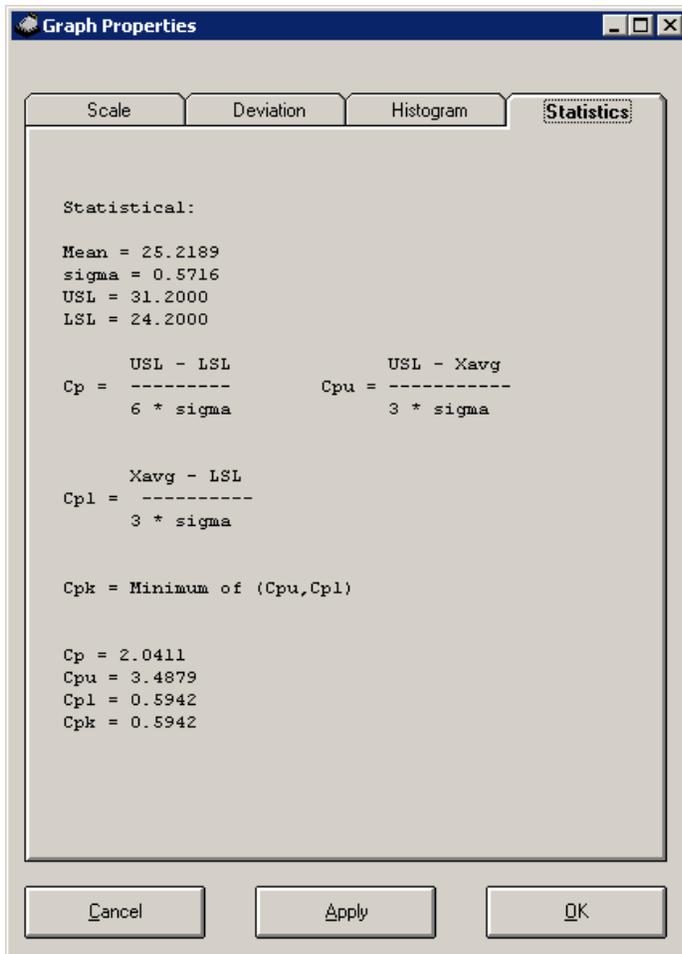
The upper and lower control limits are set manually, in either weight units or deviations. The control limits are displayed on the graph, and used to calculate the number of good weights, overs and unders.

Use database spec limits

There is a box on the reports screen marked  Use database spec limits. If this box is checked, the upper and lower spec limit will be automatically calculated and filled in from the database as **Max Accept – Target** and **Target - Min Accept**, respectively.

### Statistics:

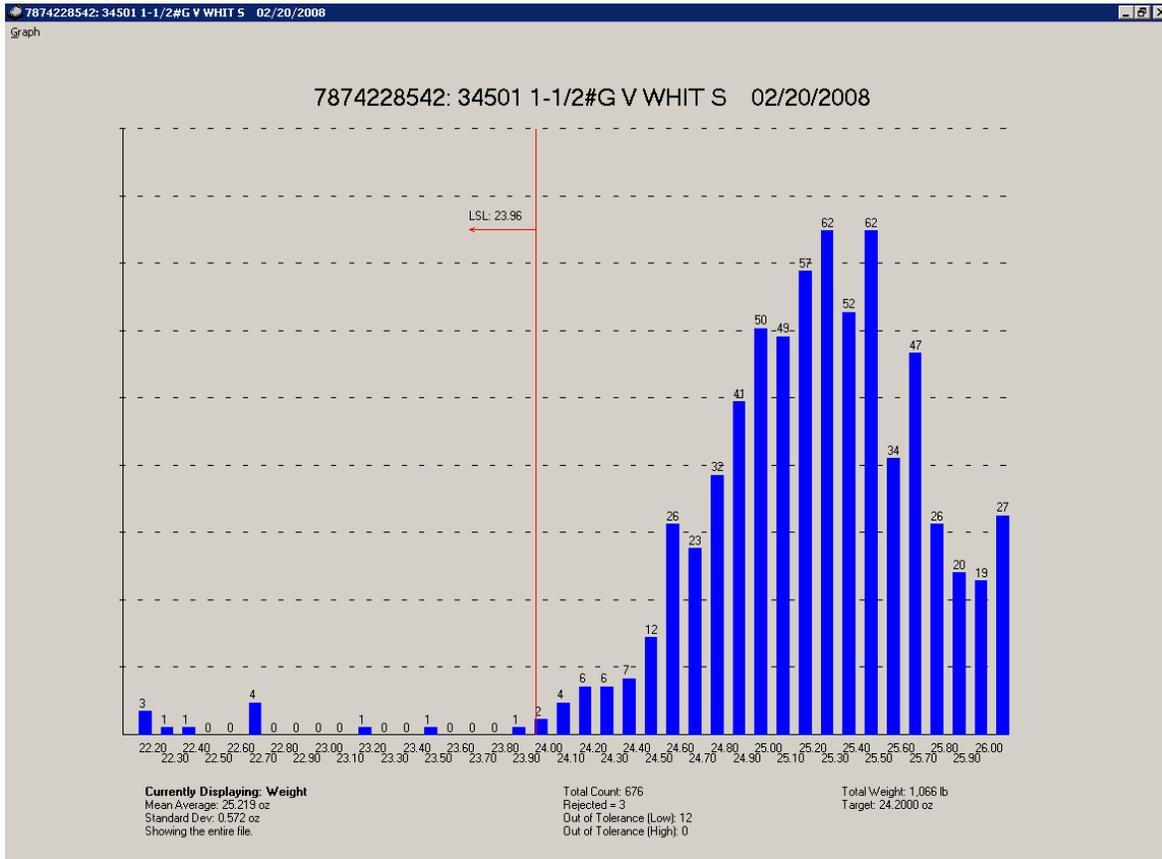
Some more statistics are calculated and displayed on the **Statistics** Tab.



Histogram

From the Reports screen, click [Histogram](#) to view the histogram for this file. A sample is shown below:

# Histograms



The data points, previously shown in a scatterplot, are here grouped into zones and shown as a histogram. To change the zone borders, click **Set Zones** from the graph menu. The zones are referenced to target weight and apply globally to all products. In the example above, each bar is 0.1 ounces wide and there are 40 bars, or zones. The tallest bars (there are 2) represent all loaves in this sample that weighed between 25.3 and 25.4 oz and between 25.5 and 25.6 oz. There were 62 such loaves in each case.

Towards the left side of the histogram is a red line labeled LSL: 23.96. This shows the Lower Spec Limit. An upper spec limit exists but is off the graph. Loaves falling outside these lines are rejected loaves, assuming rejection was turned on during the run.

Some summary data is shown at the bottom of the graph, including:

1. Mean, or average of the sample
2. Standard Deviation of the sample. Standard Deviation is figured using the formula:

$$s_N = \sqrt{\frac{1}{N} \sum_{i=1}^N (x_i - \bar{X})^2}$$

In the example above, sample N is 676.  $\bar{X}$  is the mean, 25.219 oz.

3. Range. In the example above the entire file is visible. Using the X-Axis controls on the

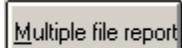
properties screen, you can also display only part of the file. If only part of the file is displayed, the histogram will be limited to the portion of the file displayed on screen. A message in the lower left corner shows how many samples are being displayed.

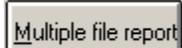
4. Total Count. Total number of loaves in the sample.
5. Rejected Count. When the Validator rejects a loaf it writes a reject message to the file. This count represents the number of loaves actually, physically rejected.
6. Out of Tolerance counts (Low and High). This is the number of loaves which should have been rejected based on being out of tolerance. This number may be greater or less than the reject count for two reasons: 1. Reject tolerance used for the tolerance counts is the *current value*. It may have changed since the run. 2. Rejecting may have been turned off.
7. Total Weight. The total weight of all product inspected.
8. Target Weight.

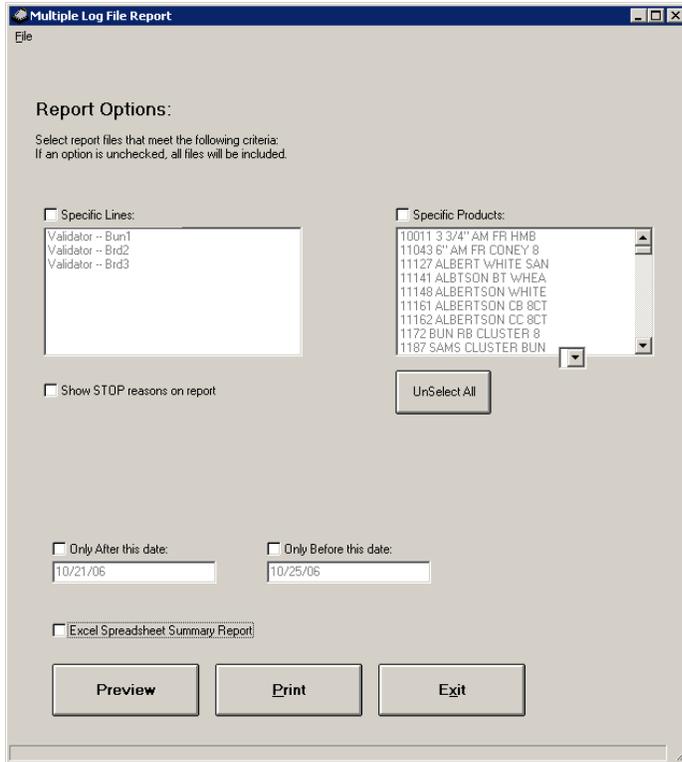
## Live Data

The Scatterplot button allows you to view completed runs only after they are complete. Each completed run's data is stored in a file with a .wts extension. Each Validator may also have a current log file with a .wtx extension. This is the live file. Whenever new data comes over from a Validator, it goes into the live file for that Validator. When the product changes, BSIDownloader renames the live file to a .wts extension (making that file a completed run) and starts a new live file with the new product. You won't see the live file in the run list (that's the big white box on the report screen). If you want to view the live file, there's a menu option for it. Click **File → Graph the current unit's file (live data)**.

## Multiple File Reports



The  button calls up the multiple report dialog box.



This screen lets you generate a data report compiled from multiple runs. If you leave all four check boxes unchecked, the report will contain data from every file in all the log file folders. Check the boxes to limit data to specific lines, products, or dates.

The report will have one entry for each run. The entry will show the product, the date it was run, the target weight, standard deviation, mean squared error (square root of the sum of squares of error between actual weight and target), loaves over and under tolerance, and loaves under and over acceptable values.

A sample report fragment is shown below:

```
7073330102: 8009 IP 1-1/2 AMA 100    02/14/2008 12:21 - Run Lasted 3 sec
Target 24.00 Av: 24.82 oz Std Dev: 1.2530 Mean Square Error: 1.495 Loaves: 1 OK 2 Under 636 Over
0 in ACCEPT range 0 Under MAV 638 Over MAV

5040072746: 50052 EG 100% STNEGROU 02/14/2008 13:05 - Run Lasted 3 sec
Target 24.00 Av: 24.68 oz Std Dev: 4.0072 Mean Square Error: 4.015 Loaves: 0 OK 1 Under 39 Over
0 in ACCEPT range 0 Under MAV 39 Over MAV
```

Each run has an entry showing the product, run time length, total units, and statistical data on the three variables: weight, height and color.

For a report in Excel spreadsheet form, check the Excel box. The system will prompt you for a file name for the excel spreadsheet, and then display the report. A sample is shown below:

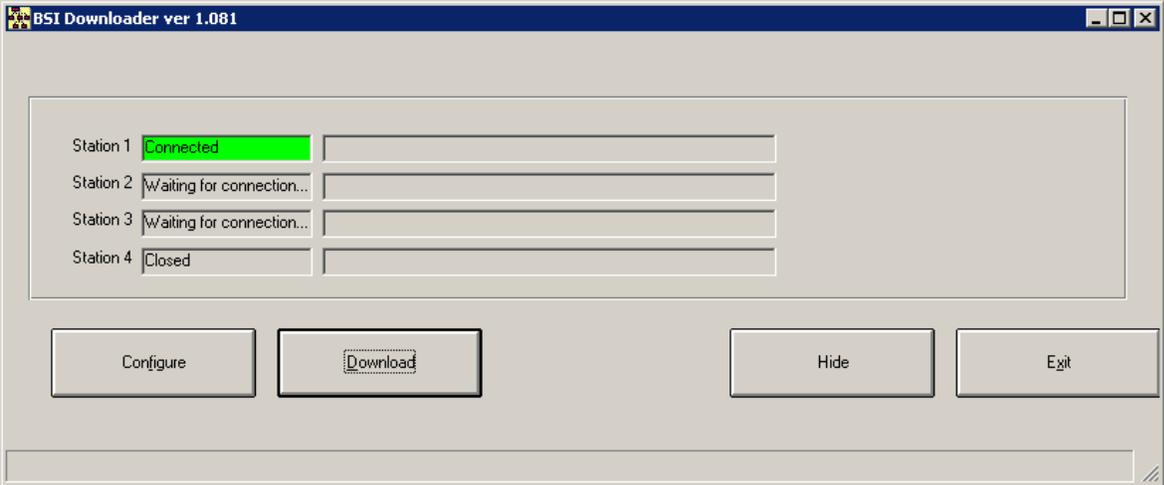
	A	B	C	D	E	F	G	H	I	J	K
1	BSI Validator Report										
2	Date Range: After 1/21/08										
3											
4	Product	Run Time	Minimum Weight	Maximum Weight	Standard Deviation	Mean	Median	Target	Total Loaves	Total Weight	
5											
6	12549 BST CH WHITE	Brd2: 02/20/2008 01:01 - 01:09	24.300	26.400	1.852	25.160	25.200	24.200	197	4956.600	
7				<b>Totals:</b>	<b>1.852</b>	<b>25.160</b>			<b>197</b>	<b>4956.600</b>	
8											
9	12556 BST CH WHEAT SND	Brd2: 02/19/2008 23:37 - 23:52	7.600	26.000	1.855	25.093	25.200	24.200	314	7879.200	
10				<b>Totals:</b>	<b>1.855</b>	<b>25.093</b>			<b>314</b>	<b>7879.200</b>	
11											
12	12559 1#BEST CH WHITE	Brd2: 02/19/2008 20:37 - 20:41	16.400	17.900	1.430	17.089	17.200	16.200	149	2546.200	
13				<b>Totals:</b>	<b>1.430</b>	<b>17.089</b>			<b>149</b>	<b>2546.200</b>	
14											
15											
16	30304 1#OUR FAMILY WHI	Brd2: 02/19/2008 19:51 - 19:52	17.100	18.300	3.628	16.921	17.550	16.200	24	406.100	
17				<b>Totals:</b>	<b>3.628</b>	<b>16.921</b>			<b>24</b>	<b>406.100</b>	
18											
19	8009 IP 1-1/2 AMA 100	Brd3: 02/14/2008 12:21 - 12:49	6.600	27.200	1.253	24.818	24.800	24.000	639	15858.500	
20				<b>Totals:</b>	<b>1.253</b>	<b>24.818</b>			<b>639</b>	<b>15858.500</b>	
21											
22	53066 SL CLASSIC WHITE	Brd2: 02/19/2008 11:03 - 11:24	19.700	23.100	0.984	21.070	21.100	20.000	674	14201.200	
23	53066 SL CLASSIC WHITE	Brd2: 02/19/2008 11:26 - 12:11	18.400	23.500	1.077	21.467	21.400	20.300	999	21445.900	
24				<b>Totals:</b>	<b>1.040</b>	<b>21.307</b>			<b>1673</b>	<b>35647.100</b>	
25											
26	53067 SL CLASSIC WHEAT	Brd2: 02/19/2008 14:58 - 15:20	18.900	22.000	0.884	21.217	21.300	20.300	635	13472.900	
27	53067 SL CLASSIC WHEAT	Brd2: 02/19/2008 15:25 - 16:27	10.300	24.600	0.893	21.256	21.300	20.300	1155	24550.500	
28				<b>Totals:</b>	<b>0.890</b>	<b>21.242</b>			<b>1790</b>	<b>38023.400</b>	
29											
30	53069 SL HONEY WHEAT	Brd2: 02/19/2008 16:27 - 17:10	16.500	25.900	0.837	21.314	21.300	20.300	1280	27281.300	
31				<b>Totals:</b>	<b>0.837</b>	<b>21.314</b>			<b>1280</b>	<b>27281.300</b>	

This report shows some of the same information from the histogram.

An excel worksheet file called **BSI Report Template.xls** is used as the template for the above. Whenever you print an Excel Report, CheckManager makes a copy of this file (that contains the top 4 rows of the report) and then adds all the other rows and columns below. To change this template file name, click **File → Excel Options** from the report screen. The excel options window also lets you select a default folder where new report spreadsheets are stored.

# BSIDownloader

CheckManager is the application used for editing data tables and viewing reports. BSIDownloader is the application used for communication with the Validators. It has two main functions: Downloading products and logging weight data. A shortcut for BSIDownloader is generally copied into the Start Menu Startup folder so that BSIDownloader will start with Windows. This is necessary so BSIDownloader is always logging data. Whenever BSIDownloader is not running, any weight data from the Validators will be lost. CheckManager does not need to be running except when you are using it. The main screen for BSIDownloader looks like this:



In the example above, four Stations are shown. That means there are four Validators in this installation. Only Validator 1 is shown connected. The interface to the Validators is TCP over Ethernet. Each Validator has a unique IP address you set through the front keypad. You must configure that same IP address in the BSIDownloader setup so BSIDownloader knows what IP addresses to connect to. Click the Configure button to set up your IP addresses.

## Configuration

The configuration screen has three tabs. The first is IP Addresses.

The screenshot shows the 'Configure Parameters' dialog box with the 'IP Addresses' tab selected. The 'Stations' field is set to 4. Below this, there are six rows for station IP addresses and their active status:

Station	IP Address	Active
Station 1	10.41.99.3	<input checked="" type="checkbox"/> active
Station 2	10.41.99.4	<input checked="" type="checkbox"/> active
Station 3	10.41.99.5	<input checked="" type="checkbox"/> active
Station 4	10.41.99.6	<input checked="" type="checkbox"/> active
Station 5	192.168.0.105	<input type="checkbox"/> active
Station 6	192.168.0.106	<input type="checkbox"/> active

Below the table, the 'Database File Location' is set to 'C:\CheckManager\' with a 'Browse' button. There are also checkboxes for 'Start Minimized' (unchecked) and 'Make the program a tray icon when minimized' (checked), a 'Store Paths' button, a 'When downloading, sort by:' dropdown menu set to 'UPC', and a 'Zero Tolerance (0 disables)' field set to '2.0'. 'Cancel' and 'OK' buttons are at the bottom.

You can select any IP addresses you want, subject to the following constraints on your network.

1. They must be allowed addresses on your subnet.
2. They must not already be in use
3. The IP address entered on this screen must match the IP address entered on the Validator in its setup mode. (This is done on the front keypad).

Generally, your network administrator will maintain a list of allowed addresses and assign you one for each Validator.

The active check box must be checked or BSIDownloader will not try to connect to the Validator.

### Database File Location

This text box shows the path/file name of the **Package.mdb** Access database file, which contains the **products** table with all the bread varieties and target weights. Make sure the path here points to the same file you are editing in CheckManager. Otherwise, you will be editing one file and downloading another. Network paths are acceptable, and you may have CheckManager installed on more than one computer. However, only one copy of BSIDownloader should be installed in the plant, since only one physical connection to the Validators is needed.

Use the Browse button to bring up a browse dialog and search for the file.

### Hiding BSIDownloader

When not in use, you can click the Hide button on the main screen to hide BSIDDownloader. If the *tray icon* check box on the config screen is checked, BSIDDownloader will disappear from the task bar and become a system tray icon like this: . Right-click the icon and select **Restore** to see it again.

## Sorting

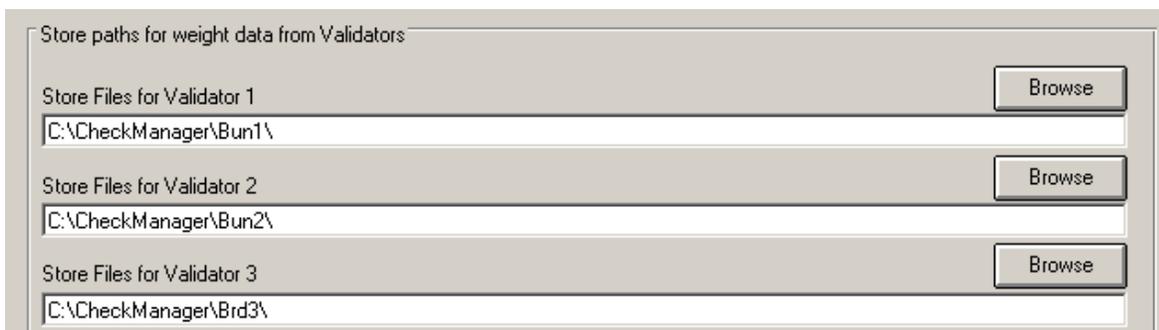
Below the check boxes, there is a list box on the config screen that allows you to select a sort field when downloading. Generally, the Validator selects the current running product automatically when it gets a message from the bar code scanner when a UPC code is scanned. However, if desired, the operator on the plant floor can also select a product manually using the front keypad. This is sometimes needed if a bag does not have a UPC code, or does not have one that is easily read by the scanner. In that case, the operator can use the NEXT and PREV keys on the Validator to scroll through all the products. They will be sorted in the order you select here. The choices are UPC, unit and Variety Name. Unit is a special field whose main purpose is to provide a sorting number. For example, you could enter the SKU number for each variety in the unit field (you would do this in CheckManager). Then, when the operator scrolled through all the products on the Validator screen, they would be in SKU order.

## Zero Tolerance

This number disables a weight data log entry if the weight is below a certain threshold. Two ounces in the example shown above.

## Store Paths

Click the Store Paths button to view the Store Paths screen, which looks like this:

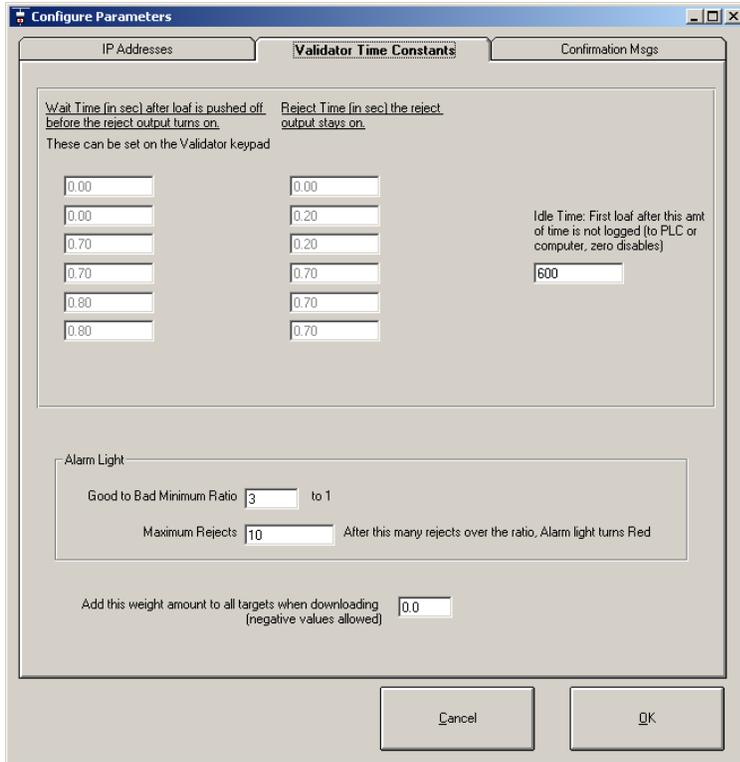


Validator	Store Path	Action
Store Files for Validator 1	C:\CheckManager\Bun1\	Browse
Store Files for Validator 2	C:\CheckManager\Bun2\	Browse
Store Files for Validator 3	C:\CheckManager\Brd3\	Browse

BSIDDownloader stores log data from all the Validators in the system. Each Validator has its own path. You can set up and change these paths on this screen. Note that the path in the CheckManager reports screen should match up to the path here for each Validator. I.e., on the CheckManager reports screen, if you select unit 2, the file path should be C:\CheckManager\Bun2\, just like it is here.

BSIDDownloader stores one file for each run of a product. A run consists of all bread loaves that pass over the scale that are the same product UPC code. I.e., each time we change products, we start a new file. We also start a new file when the line has been idle for 60 minutes. You can change that timeout on this screen at the bottom. As each new weight comes in, it is written to a file named **UUUUUUUUUU.wtx**, where UUUUUUUUUU is the UPC number of the product. When that run is complete (i.e., a new run starts or the Validator is idle for an hour) the file name is changed to a .wts extension and will then appear in the list of runs for that Validator on the reports menu in CheckManager.

## Validator Time Constants



The middle tab in the configuration screen shows the time constants. These are uploaded from the Validators for display only. You have to change them on the keypad on the Validator itself. The time constants are used for rejecting. Whenever a loaf is weighed that is out of tolerance and rejecting is enabled, the wait timer starts (the time shown in the left column). After the wait timer, the air reject turns on for the reject time.

Idle time on the right side of the screen is a number used to discount the first loaf weighed after a long idle time. This is because the first loaf weighed after the conveyor starts might not be completely on the scale. If the Validators are wired so as to read an input to indicate the conveyor status (ON or OFF) this parameter is unnecessary and can be set to zero.

### Alarm Light

The green Alarm light on the Validators turns off to indicate excessive rejects. The definition of excessive is set by the numbers in this box. The first box sets the ratio of good-to-bad loaves that is our dividing line between a green-light operation and no-green-light. In the example above, if we are rejecting more than 1 bad loaf for every 3 good ones, the green light will eventually turn off.

Mathematically, an internal counter in the Validator counts up once for each bad loaf and down once for each 3 good loaves. Once the counter gets to 10 (in the example above) the green light turns off. When it drops back below 10, the green light turns back on.

### Confirmation Message Tab

A confirmation message is sent back from each Validator to verify that parameters have been received. Parameters are sent whenever BSIDownloader starts or when you change something in setup. You can view these messages on this tab for each Validator. First select the Validator from the list box.

The Reject Log button on this screen lets you view the reject log for this Validator. BSIDownloader

logs an entry whenever an operator enables or disables rejecting.

The Create Log button allows you to manually complete the current run. This copies the current live .wtx file to a completed .wts file, in the same way as if the run complete normally. I.e., this is the same process that happens when a new product starts to run or when the Validator has been idle for 60 minutes.

### **Downloading**

Once you have made changes to the

## Appendix A: ASCII Files

Each time a package is weighed on the Validator, an entry is added to the ASCII file for that run. A new ASCII file is started each time the product changes. The rules for naming the ASCII file are as follows:

While in use, the ASCII file is named by the product code followed by the .wtx extension, so the file for RCVD CAN Calorie (Product Code 027205) is called

027205.wtx

and is stored in the logs directory, for example:  
C:\Validator\logs\Validator1\

Once a new run starts, i.e. a different Product Code is entered and the first package weighs, a new file is started and the old file is renamed to reflect the start date/time and end date/time. The format is

Unit Name + “\_” + Product Code + “\_”+ Start Date + “\_”+ Start Time + “\_”+ End Date + “\_”+ End Time + “.wts”

So our new file name would be:

Val2\_027205\_11072000\_0557\_11092000\_1527.wts

This file is stored in the log file folder, for example  
C:\Program Files\Validator\logs\

You can see the Product Code comes first, then the start date “11072000” then the start time “0557”, the end date “11092000” and the end time “1527”.



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