



Avery Weigh-Tronix

SCALES FOR AGRIBUSINESS

TDS-1040 Transfer Data Software

File Edit Transfer View Tools Help

Transfer **Batch Target** Weight Units **LB**

Ingredients | Recipes | Pens | Data Transfer | Batched/Fed | Import

Data Group
Transactions (all)

Transaction	Recipe	Type	Batch Wt	Ingredient	Feed Wt	Pen	Target Wt	User
1	dRYCOW	BATCH	444	GRASS			437	
1	dRYCOW	BATCH	1021	ALFALF			1019	
1	dRYCOW	BATCH	63	MOLASA			61	
1	dRYCOW	BATCH	74	PREMIX			76	
1	dRYCOW	BATCH	5241	SILAGE			5240	
1	dRYCOW	BATCH	174	STAULK			167	
1	dRYCOW	FEED			4021	dRYCOW	4000	
1	dRYCOW	FEED			3002	N-bARN	3000	
2	HEIFER	BATCH	15044	ALFALF			14999	
2	HEIFER	BATCH	378	MOLASA			900	

Navigator Fit/Print All Columns on Page Expand All

Recipe dB:	RONTST10.RDB	Units:	LB	Created:	11/29/2005	Modified:	12/12/2005
Transaction dB:	RON10.TDB	Units:	LB	Created:	12/5/2005	Modified:	12/5/2005

TDS-1040 User's Manual

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Introduction

The TDS-1040 (Transfer Data Software) works in conjunction with the Model 1040 indicator and a TDM-40 (Transfer Data Module). The product allows a user an economical method of transferring recipe data to the Model 1040 and batched data from the indicator to the computer.

This overall process is as follows:

1. Enter/Edit ingredient names, recipes, and pens in a recipe database on the computer.
2. Download recipe and pen information to the TDM-40.
3. Download this information into the Model 1040.(REC.IN)
4. After a day/week of batching (100 batches max) and feeding, download (bAT.OUT) the information into the TDM-40.
5. From the TDM-40 upload batch transaction data into the computer, and save. (.WTT)
6. Open a transaction file that you want this information stored into. This could be an existing file or you can create a new one.
7. Import the .WTT file into TDS-1040 transaction file you just opened and now you can create several reports regarding the batched/fed data.
8. Save the transaction file to be used in the future.

Please remember that the TDM-40 module only needs to be connected to the Model 1040 when it is time to download.

Getting Started

TDM/Cables

If only one RS232 port than setup on RS232.1

To get started follow these steps:

1. Plug the TDM-40 into the Model 1040 serial connector for at least 3-4 minutes initially. This will charge the module for use.
2. Make sure the Model 1040 RS232.1 or RS232.2 is setup as follows (see note at left):
 - BAUD: 19200
 - PARITY: NONE
 - dATA: 8
 - HANd: XON.XOF
 - LAYOUT: TdM.TdS
3. The TDM-40 is shipped from the factory at a default baud rate of 19200. This baud rate can be changed in the TDS-1040 PC package if you know that the TDM-40 baud rate is not set to 19200.
4. The short interface cable is an optional pigtail cable that extends the RS-232 port on the bottom of the indicator. Install the cable and then plug the module into the end of that cable when uploading/downloading. The cable is not needed for operation. The TDM-40 module can be plugged directly into the indicator serial port. The cable adds protection against breaking the serial port connector if the module is hit by something like a loader bucket.
5. The long cable is the interface to the computer. Take the 9 pin female end and plug into the available RS-232 serial COM port on the back of the computer. Make sure this COM port is not used for any other computer application.

TDS-1040 Software

PC Requirements

This section deals with PC requirements and installation of the TDS-140 software.

Operating System: Windows 98, with Y2K Update 2 and IE 4.01 SP2
or
Windows 98 SE **or**
Windows ME **or**
Windows 2000 **or**
Windows XP

System CPU: Pentium 100MHz minimum

System RAM: 32 MB

System Disk Space: 18 to 38MB

Display: 800 x 600 Minimum Resolution, 16-Color

Communications: One RS-232 Serial COM Port (COM1 thru COM9)
19,200 Baud, (8 Data Bits, No Parity)

Hardware Handshake: None, but DTR line used to provide power to TDM-40 module

Optional: One TDM-40 Transfer Data Module w/Interface cable

Installation

1. Insert the supplied CD into the appropriate CD drive on your computer. Follow the directions when the install starts. It is recommended to install the TDS-1040 program into the default file location.
2. When the install is complete, the program will automatically generate an ICON on your computer called Weigh-Tronix TDS-1040.
3. Double click on the ICON to start using....

TDS-1040 Overview

This section gives you a brief overview of the operation of the TDS-1040 PC software. Following this overview section are specific instructions on performing the various operations.

This software package is used to help organize ingredient, recipe and pen information into a recipe database. It then transfers this information to a feed batching system based on the Avery Weigh-Tronix Model 1040 indicator. This system makes the selected recipe. Finally, the batched information is then transferred back to the PC and the user can view what feed was mixed and where that feed was fed.

To start, you should have all ingredient, recipe and pen information handy. It will be needed to create the recipe database in the TDS-1040 software.

- Open a recipe database.
Either create a new database or open an existing one. This is where all the ingredient, recipe and pen information is saved.
- Enter the ingredients list.
The TDS software will keep track of moisture content in each of the ingredients. This is called dry matter. When the dry matter changes, modify it in the ingredient list and the weights of all the recipes will automatically be recalculated. Each of the ingredients also can be specified as a hand-add. A hand-add usually is a small ingredient that is too small to be weighed accurately on the scale. If an ingredient is set to be a hand-add,

when it is time to fill that ingredient, the target weight will be shown on the indicator, but when the weight is added, the indicator will always record the target weight for the actual amount loaded. It is up to the feeder to pre-weigh the hand-adds.

- Make the recipes.

There are four types of recipe modes; weight mode, head count mode, self-adjusting mode and percent mode. Each recipe could have a different type.

The weight mode recipe is just as the description indicates. You make feed by selecting that recipe and then a feed weight to mix.

In head count mode, the recipe is entered as if it will be for 100 head of animals, then when the feed is going to be made, the indicator gives the feeder the option to select the number of head to feed. The indicator then calculates the feed weight to the number of head selected and the feed is made.

Self-adjusting mode is mainly used when large bales are used when feeding. The recipe is formulated as it was for weight mode, but when the first ingredient is put in the mixer, the scale reads that weight and recalculates the remaining ingredient weights so that the formulation for that recipes stays the same. So, if the recipe was entered and the target weight for the first ingredient was 1000 lbs., if the actual weight of the first ingredient was 1100 lbs., the rest of the ingredients will be adjusted up 10% so that the recipe stays consistent.

Percent mode is used when recipes are entered by percentage instead of weight. The percentages must add up to 100%.

Creating a recipe is simple. Select the recipe location, name the recipe, select the recipe type, and then select the ingredients and set the amounts for each ingredient. The recipe is complete. Remember to enter the ingredient weight as if they were 100% dry matter. This way when you change the dry matter in the ingredient list, the actual weights sent to the indicator will be corrected for. The left column of ingredient weights are for 100% dry matter, the right column is to correct ingredient values that will be sent to the Model 1040 indicator.

- Enter the pens. Make a list of pen names and target weights. This is what the indicator will suggest for a unload weight of that pen. In the standard version, 100 pens are available. You can enter 200 pens when used with special M1040 software.

At this point the data will be transferred to the Model 1040 indicator. The feed can be made and unloaded, and then the batched information can be transferred back to the TDS-1040 PC package. This information can then be viewed in the BAT/FED tab. There is a drop down box that selects what information to look at. This function filters the information so that you can view many different types of data.

Creating a Recipe Database File – Entering an Ingredients List

1. Click on FILE>NEW> RECIPE DATABASE, then enter a recipe database file name. (Suggest using date codes as file names. Example: RD010603 for recipe database on June 1, 2003) This file will store your ingredient list, recipes, and pen list. The name of the recipe database file will be shown in the bottom left of the program window.
2. Under the INGREDIENTS tab, use the drop-down box to select the ingredient number and enter in your first ingredient name.

A 16-character description and a 6-character name can be entered for each. The description is used by the PC package. The name is used by the Model 1040 indicator.

There is a “percent dry matter” that can be entered for each of the ingredients. This value will help the recipes calculate the actual feed amounts so that the animals get the correct dry matter for each of the ingredients. This value can be changed whenever the ingredient moisture content changes. All of the recipes will be updated to correct for the change.

An ingredient can also be specified as a ‘hand add’. A hand add is an ingredient that is you put in the mixer. You must put the correct weight of the hand add in the mixer. Whatever the target weight is will be recorded as the amount that got put into the mixer.

Repeat these steps for each of the ingredients. After completion of each ingredient entry, click the UPDATE button to save and update the new item in the list.

3. When all ingredients are entered press the UPDATE button. Click on the VIEW INGREDIENT BOX if you want to view all the active ingredients entered.
4. After all ingredients are loaded, do FILE>SAVE>RECIPE DATABASE and that recipe database will be saved, in order to be recalled at a later date. See note at left.

All editing must be done at the computer, as the only editing allowed on the Model 1040 are batch amounts or pen feed amounts.

The screenshot shows the TDS-1040 Transfer Data Software interface. The main window has tabs for Ingredients, Recipes, Pens, Data Transfer, Batched/Fed, and Import. The Ingredients tab is selected, displaying a form for entering ingredient details. The form includes fields for ID Number (1: SILAGE), Description (Silage), Name (SILAGE), Dry Matter (35%), and a checkbox for Hand-Add. Below the form is a table listing ingredients with columns for ID, Name, Description, Dry Matter (%), and Hand-Add. The table contains 8 rows of data. At the bottom of the window, there are buttons for navigation (K<<, <, 1, >, >>I), Update, Cancel, and Default. A status bar at the very bottom shows Recipe dB: RONTST10.RDB, Units: LB, Created: 11/29/2005, Modified: 12/12/2005, and Transaction dB: RONT10.TDB, Units: LB, Created: 12/5/2005, Modified: 12/5/2005.

ID	Name	Description	Dry Matter (%)	Hand-Add
1	SILAGE	Silage	35	No
2	STAULK	Staulks	55	No
3	ALFALF	Alfalifa	60	No
4	HAY	Hay	75	No
5	GRASS	Grass	70	No
6	MOLASA	Molasaas	100	No
7	PREMIX	PreMix	100	No
8	WATER	Water	100	No

Creating A Recipe Database File - Recipes

1. Click on the **RECIPE** tab and start entering recipes. Select a recipe # and enter a recipe description. The recipe name will default to the first six characters of the description. The name can be modified, but do not use a period (".") in the name.
2. Select the recipe mode in the Batch By drop-down box. Once selected, this cannot be changed. Deleting the recipe and starting over is the only way to change this.
3. Move the cursor down to the first row and click on the first ingredient window. An arrow will be displayed, click on the arrow to access the available ingredient list. Once entered, use the mouse and click on the target field to enter the amount of that ingredient. Repeat the process until the recipe is completely programmed.

4. If in Head Count mode, make sure all ingredient weights were based off 100 head of animals. In Percent mode, all the percentages need to add up to 100%.
5. Set the Ration Target or Head Cnt, depending on the recipe mode. If you would like to overfeed, change the Adjust Batch Total by the percentage desired. The ration target does not change but the Batch Target total changes when this is performed. Press Update and repeat steps 1-5 for more recipes.

Creating a Recipe Database – Pens

Use only 100 pens unless you have special M1040 software in the indicator you are interfacing to.

1. The final data entry includes entering feed (unload) pen names and amounts. This is the amount needed per feeding. If you need 14000lb / day to PEN-2 and you feed twice a day enter 7000 lb (This is an optional feature. Use if needed)
2. Click on the **PENS** tab and enter all available pens with names and amounts.

The screenshot shows the 'Pens' tab in the TDS-1040 software. The 'ID Number' is set to '8: HEIF-2', 'Description' is 'Heifers 2', and 'Name' is 'HEIF-2'. The 'Feed Amount' is '3000'. Below these fields is a table with the following data:

ID	Name	Description	Feed Amount (lb)
1	PEN-01	Pen-01	5000
2	N-bARN	North Barn	3000
3	dRYCOW	Dry Cows	4000
4	SICKOW	Sick Pen	1000
5	PEN-02	Pen-02	6000
6	PEN-03	Pen-03	5000
7	HEIF-1	Heifers 1	5000
8	HEIF-2	Heifers 2	3000

At the bottom of the window, there are buttons for '<<', '<', '8', '>', '>>', 'Update', 'Cancel', and 'Default'. The 'Update' button is highlighted.

3. When completely finished, click the **UPDATE** button and the pen data will all be updated (like shown above). The **UPDATE** button can be pressed at any time during the data entry process.

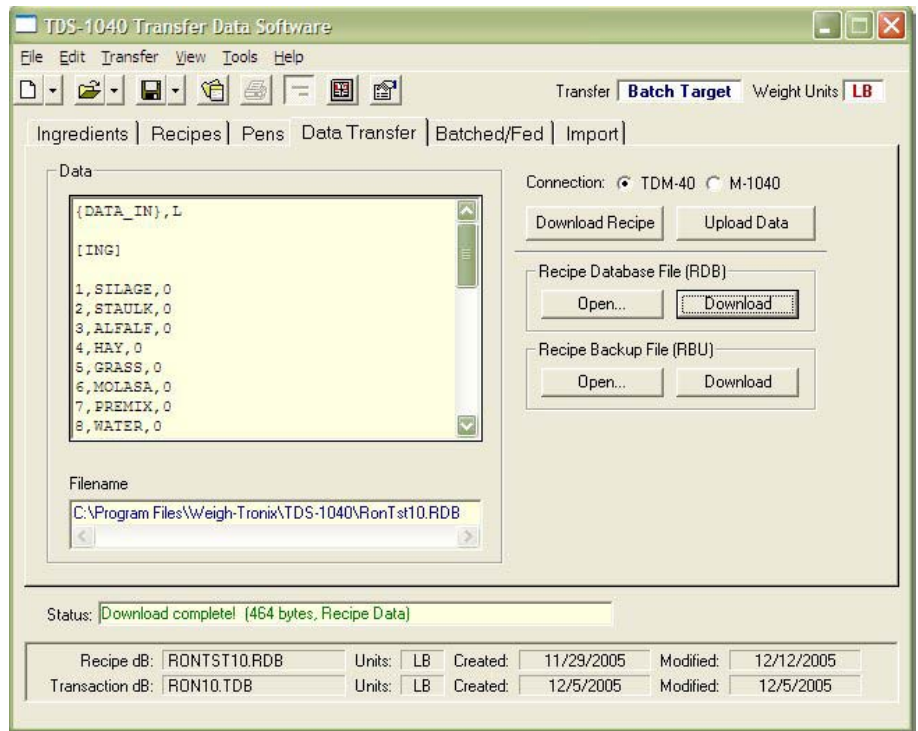
Saving a Recipe Database File

The process of entering the data is now complete and it is time to save your data so this file can be recalled the next time you will download data into the TDM-40, and then into the Model 1040 indicator.

1. Press **FILE>SAVE>RECIPE DATABASE** and then the data will be saved.
2. Notice the lower corner of the screen will display your file name, when you first created the file, and the last time it was modified.

Downloading To the TDM-40 and Uploading To the Model 1040XL (REC.IN)

1. Connect the TDM-40 into the end of the cable that is plugged into the computer.
2. Click the **DATA TRANSFER** tab, and click **DOWNLOAD RECIPE**, then under Recipe Database File, click on **DOWNLOAD**. Status field will indicate when a download is complete.



3. Connect the TDM-40 into the Model 1040, either direct into the 8 pin mating connector on the bottom of the indicator or into the short pigtail cable.
4. From the Gross mode on the Model 1040, press the **MENU** key once. . .
REC.IN is displayed
5. Press the **SELECT** key. . .
YES is displayed.
6. Press the **SELECT** key again, and the following sequence takes place. . .
CLR.ING/CLR.PEN/CLR.REC/CLR.ACC/CLR.BCH/LOADING/Ld.ING / Ld.REC/Ld.PEN/dONE is displayed. This process takes approximately 40 seconds to two minutes, depending on the size of the file.
7. Unit returns to the Gross mode. Indicator has been programmed and is ready to batch feed and unload feed to pens as selected. See the Model 1040 operators manual for further instructions.

Download Batched information (bAT.OUT) to the TDM-40 from the Model 1040XL

To download batched data from the Model 1040XL, plug the TDM-40 into the 8 pin male connector on the bottom of the indicator. (or plug into the short pigtail cable provided)

1. From the Gross mode press the menu key twice. . .
bAT.OUT is shown.
2. Press the **SELECT** key and. . .
YES is displayed.

3. Press **SELECT** again and data will be sent to the TDM-40. . .
SENDING is displayed
4. When completed. . .
display shows **dONE** and then returns to the Gross weighing mode.
5. Disconnect TDM-40 and upload to the computer.

Upload batched Data from the TDM-40 to the Computer

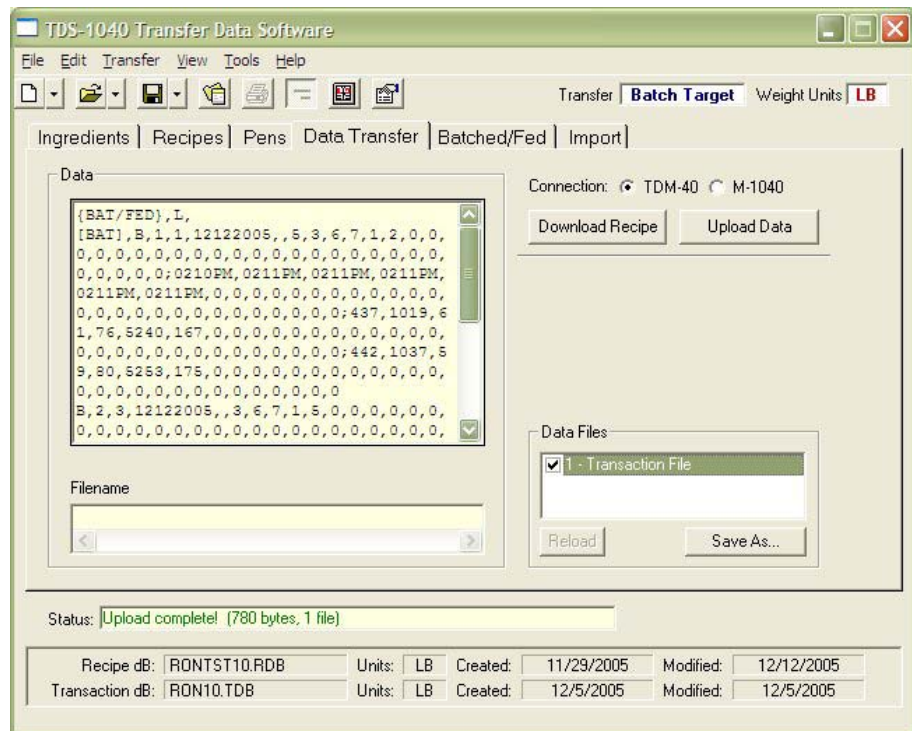
To upload batched data from the TDM-40 into the computer ...

1. Connect the TDM-40 module into the computer interface cable.
Access the TDS-1040 package Data Transfer Tab...
2. Use the **UPLOAD** button to upload...
3. Once data is saved, it will update in the status window and state "**transaction file (1) saved!**". Then click on **TRANSACTION** file in the window and the **SAVE AS** button. Type in a name of the file to be saved. (Ex: TF010603)

Recommend a scheme for naming files such as follows:

Batch Data Transaction File	TFDDMMYY.WTT
Recipe Database File	RDDMMYY.RDB
Transaction Database File	XDDMMYY.TDB

DD = Day of the month (01-31)
MM= Month (01-12)
YY= Year (00-99)



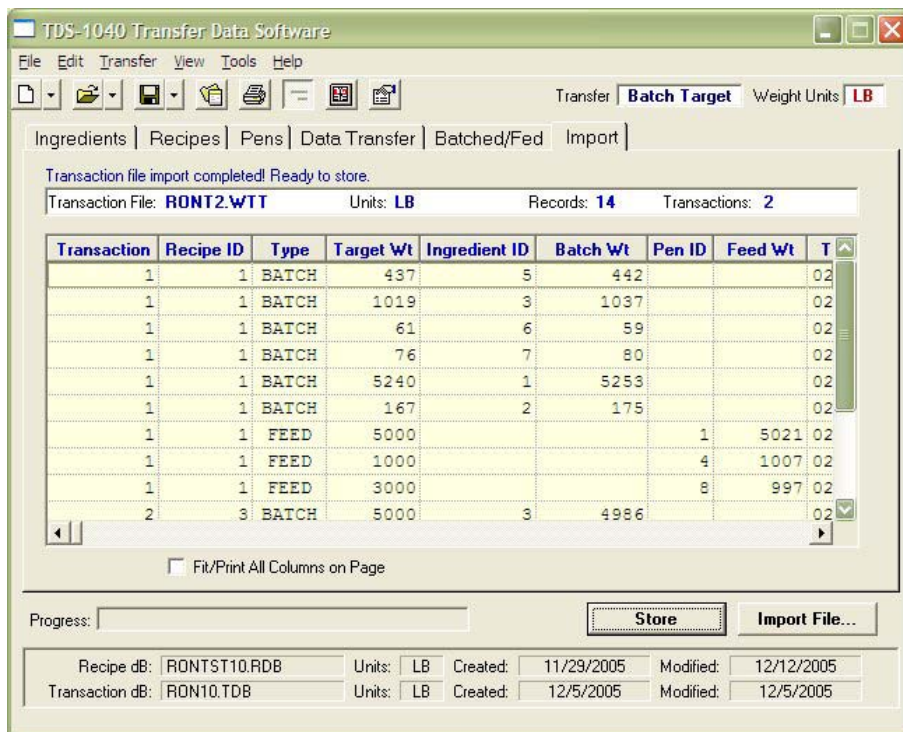
Creating a Transaction Database from a Transaction File

The saved transaction file will be used as follows to create a batched data transaction file. This final database can then be used to sort various data files for your convenience.

1. Create a new transaction database.

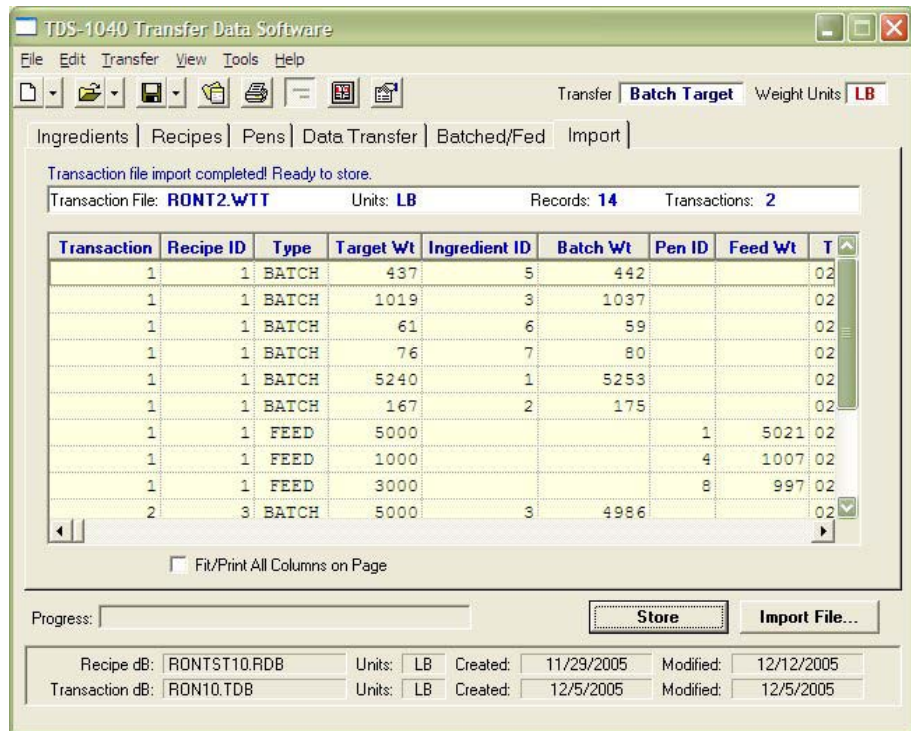
Use File>New>Transaction Database, and enter in file name, i.e. TFDDMMYY.WTT.

The Batched/Fed will now show a database file as you created new, on the bottom of the window as shown below:



2. Import the saved transaction file into the Batched/Fed database.

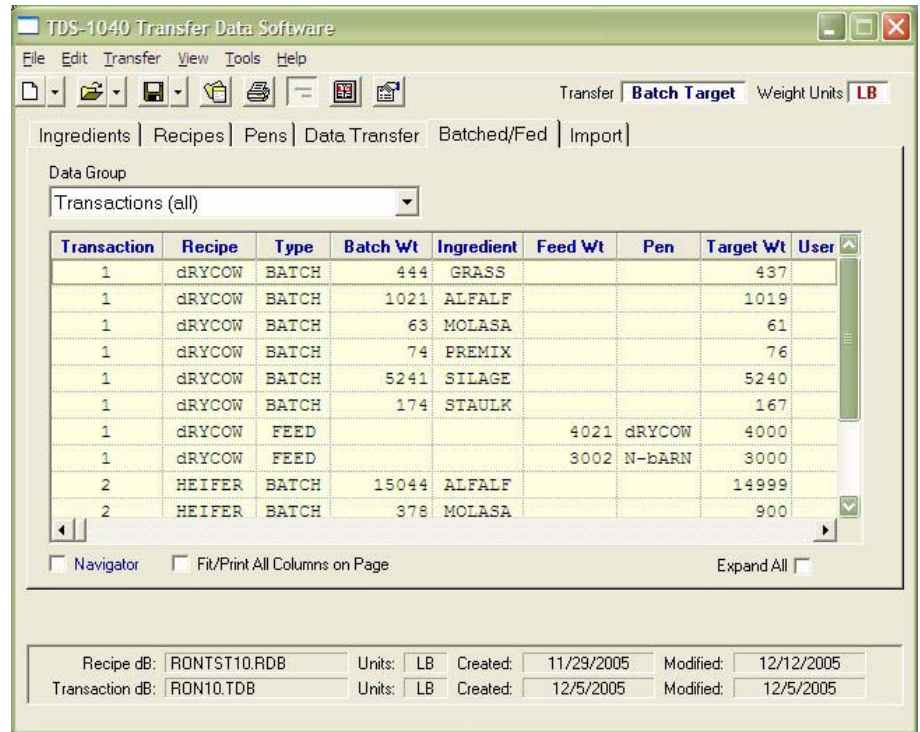
Using the **IMPORT** tab, click on **IMPORT FILE**, select the transaction file in the list that was recently saved, then click **OPEN**. This can be repeated with multiple transaction files into the same **BATCHED/FED** database to create a cumulative database.



3. Store the imported transaction file into a transaction database that can then be used to generate any of the following reports:

- Transactions (all)
- Transactions (batched/fed)
- Transactions (by Date)
- Recipes (all)
- Recipes (by Name)
- Recipe (ingredient accumulator)
- Ingredients (all)
- Ingredients (by Name)
- Pens Fed (all)
- Pens Fed (by Name)
- Pens Fed (ingredient accumulator)
- User Id (By transactions)
- User Id (by Batched/Fed)

To store the imported file, use the STORE window.

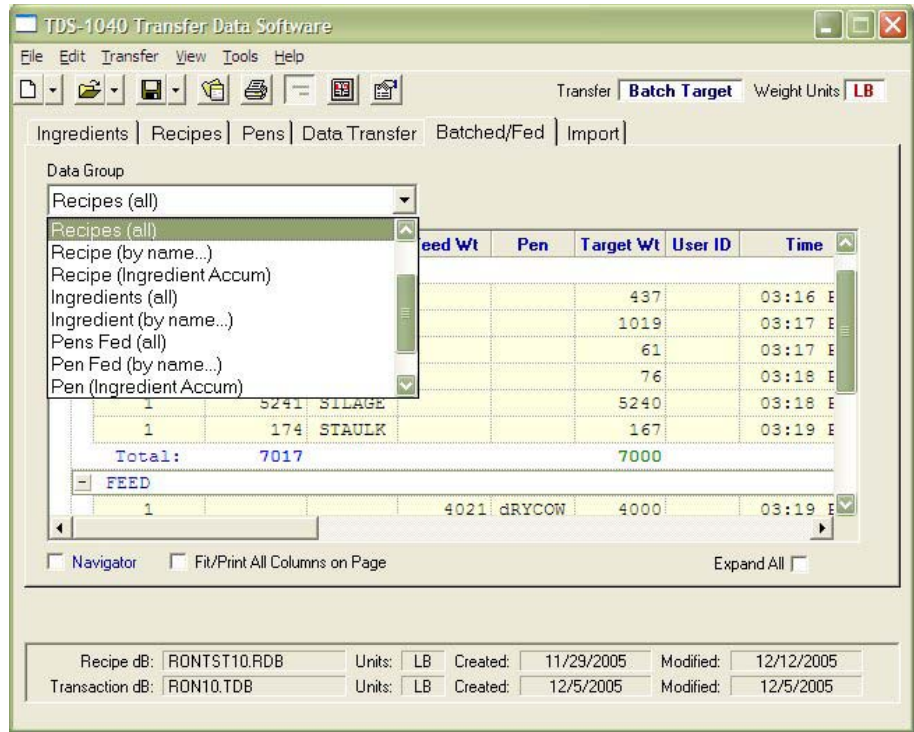


Creating/Printing Reports

Now that the transaction database is stored, the following reports can be generated from the stored database.

- Transactions (all)
- Transactions (batched/fed)
- Transactions (by Date)
- Recipes (all)
- Recipes (by Name)
- Recipe (ingredient accumulator)
- Ingredients (all)
- Ingredients (by Name)
- Pens Fed (all)
- Pens Fed (by Name)
- Pens Fed (ingredient accumulator)
- User Id (By transactions)
- User Id (by Batched/Fed)

When viewing the reports, remember that to see all the data, scroll both up/down and right/left using the appropriate scroll bars. Many of the reports can get very large depending on the number of ingredients and recipes.



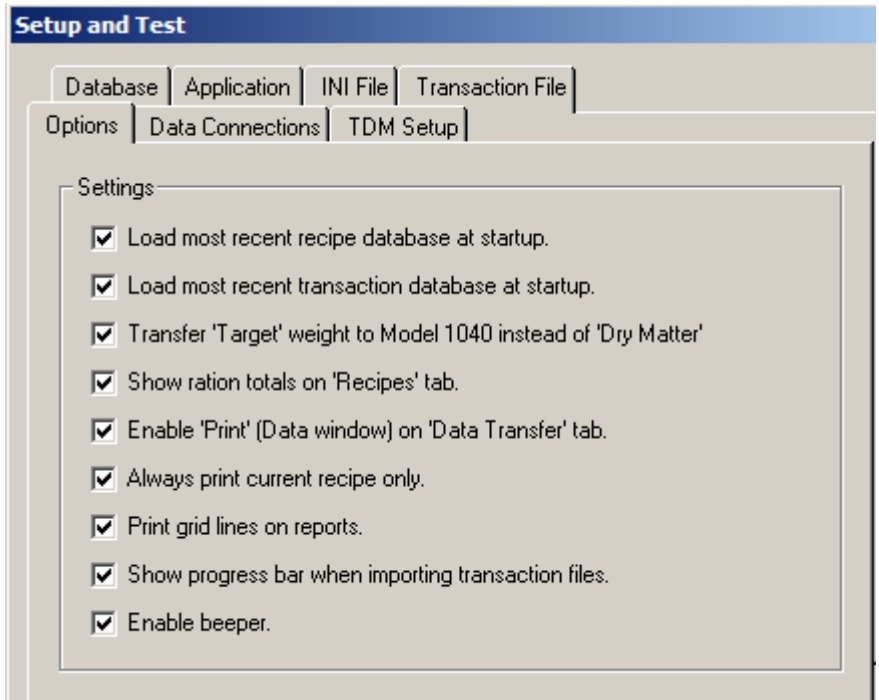
Printing

All of the reports that can be generated in the transaction database, and ingredients, recipes and pens can be printed for convenient access. To print reports, use the printer icon on the top of the toolbar.

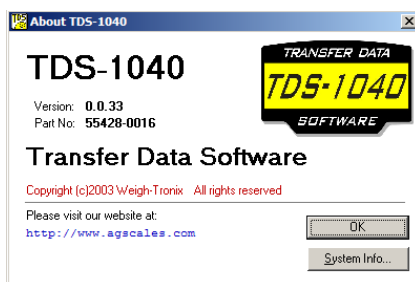
The reports will be printed by the computer screen display. If you have accessed ingredients, and hit the printer icon, then ingredient report will be printed.

Summary

This manual is an overview of how to use the TDS-1040. Please check the SETUP menu and make sure all options are properly enabled for your application. Any further questions please contact your local Avery Weigh-Tronix distributor.



Troubleshooting



1. TDM-40 isn't communicating with the TDS-1040
 - TDM-40 or cable are plugged in properly
 - TDM-40 may need to be charged up, plug into Model 1040 for a few minutes
 - Com port is set wrong on the package go to SETUP-TDM
2. Can't seem to do a Upload from the TDM-40 and receive a proper transaction file
 - TDM-40 has recipe information in it, forgot to do a BAT.out on the Model 1040XL?
 - The TDM-40 has some standard Model 1040 printouts stored in its memory?
3. Recipes on the Model 1040 are not calculating proper amounts, and they seem to be in the wrong mode such as Weight or head count.
 - The TDS-1040 has some recipes programmed for head count or weight mode?

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