



SOFTWARE USERS GUIDE

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SOFTWARE USERS GUIDE

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SECTION

1

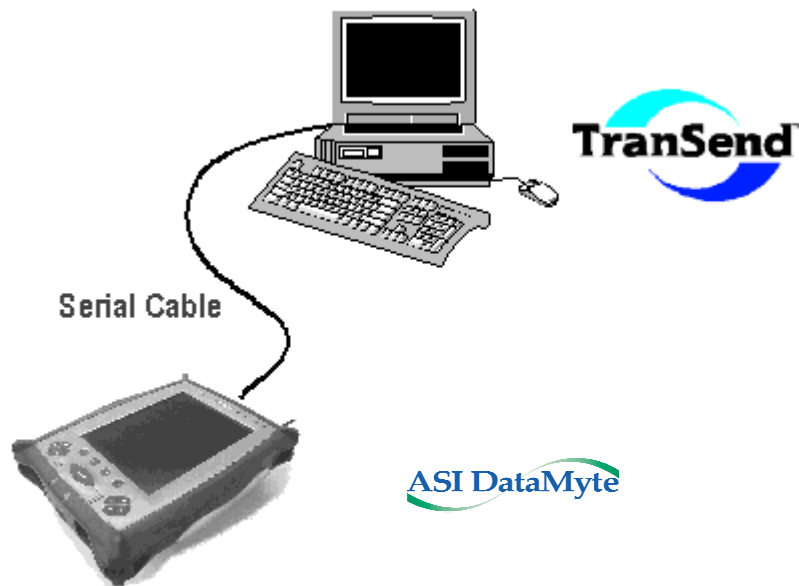
Preliminary Information



Application Description

ASI DataMyte TranSend is a utility designed to work seamlessly with Microsoft® Excel™, StatSoft Statistica™, Applied Statistics Inc. (ASI) Applied Stats™, ASI Analyst, ASI DataMyte Importer, or other data analysis applications that enables you to:

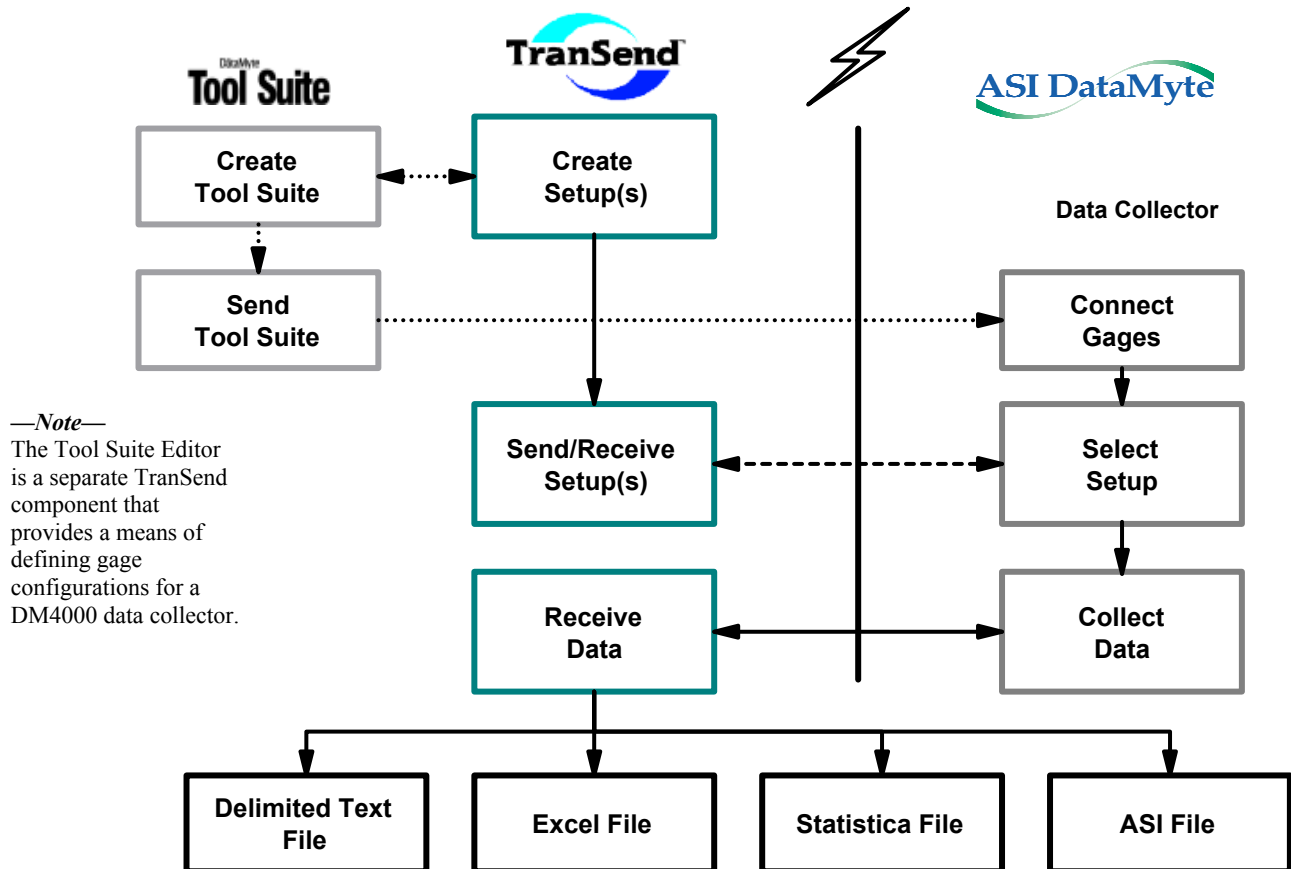
1. Configure collection setups for a variety of supported data collection devices.
2. Transfer (i.e., move) data collector setups to a data collection device.
3. Transfer collected data to analysis software (such as Microsoft Excel or StatSoft Statistica).
4. Update ASI DataMyte model 501 data collector firmware.
5. Transfer part setups from supported data collection devices to TranSend.
6. Receive torque curve data from a data collection device.



The TranSend utility works in conjunction with supported ASI DataMyte data collectors to provide a cost-effective and convenient data collection solution.

Application Functionality

The following diagram provides an overview of the procedures for working with the TranSend Utility:



1. **Create Setup(s)**—Use the TranSend Utility to design part setups (or checklists) for your specific data collection requirements.
2. **Send/Receive Setup(s)**—Use a direct-connect cable to send the part setup(s) to the data collector.
3. **Select Setup**—At the data collector, the transferred setup is selected for data collection.
4. **Collect Data**—Data is then collected for the part setup using the data collector.
5. **Receive Data**—After data (or a torque curve) has been collected for a given part setup, it may be transferred to TranSend for analysis using ASI Applied Stats, ASI Analyst, Microsoft Excel, StatSoft Statistica, or in a delimited text file format.

Host Computer Requirements

The TranSend Utility can be installed on an IBM[®]-compatible PC that meets the following minimum requirements:

- **Operating System**—Either Microsoft[®] Windows 98 SE, Windows 2000 (with SP4 installed), Windows XP (with SP2 installed), or Windows Vista (note that *neither* Windows 95 nor Windows ME are supported).¹
- **Hard Disk Storage**—At least 50 Mbytes of free hard disk space.
- **Computer Processor**—An Intel Pentium[®] II processor or better.
- **RAM Memory**—A *minimum* of 16 Mbytes of memory (32 MB or more recommended for Windows 2000/XP).
- **Pointing Device**—A mouse or other pointing device is required.
- **COM Port**—A free serial port connection (i.e., COM port).
- **Analysis Software**—Microsoft Excel version 8.0 (for Microsoft Office[™] 97), version 9.0 (for Microsoft Office 2000/3/7), or Office XP needs to be installed and operational. ASI version 4.4 (or higher), StatSoft STATISTICA Version 5.j² (or higher), and ASI DataMyte Importer 3.2.0 (or higher) are also supported.

—*Note*—
TranSend can be used when logged into the PC as a “Power User” or “Administrator.”

Determining your Excel version

To determine which version of Microsoft Excel you have installed, perform the following steps:

Steps:

1. Start Microsoft Excel on your computer.
2. Select **H**elp from the Excel main menu.
3. Select **A**bout Microsoft Excel from the Help menu.



¹ Service Packs are available free of charge from Microsoft (<http://www.microsoft.com>).

² It is recommended that those with earlier versions of StatSoft[™] subscribe for upgrades. Contact subscribe@statsoft.com. StatSoft version 5.j was released in late 1998. For additional information, call 918-749-1119.

Supported Data Collectors

The TranSend Utility can be used with ASI DataMyte data collectors supporting Open Communication Specification Version 1.1. These include the following ASI DataMyte models:



- **ASI DataMyte DM4000 running Auditor Software**—The ASI DataMyte DM4000 data collector running Auditor version 1.0 (or higher) may communicate with the TranSend Utility. Note that Auditor version 3.0 (or higher) is required for torque curve data transfers. For information about your DM4000 version, see the ASI DataMyte DM4000 User Guide.
- **ASI DataMyte 501 Handheld**—The ASI DataMyte 501 data collector must be at version 1.1 (or higher). For more information about your 501 version, see your ASI DataMyte Model 501 Handheld Data Collect User's Guide.
- **ASI DataMyte 3000 Series Portable**—ASI DataMyte 3000 Series data collectors must be at version 3.06 (or higher). For more information about your 3000 Series data collector version, see your ASI DataMyte Model 3000 User's Guide.
- **ASI DataMyte 900 Series Fixed-Station**—ASI DataMyte 900 Series data collectors must be at version 3.3 (or higher). For more information about your DataMyte 900 Series data collector version, see your ASI DataMyte Model 900 User's Guide.

The TranSend Utility Package

TranSend Components

The TranSend Utility package includes the following items:

1. **TranSend Utility CD ROM**—including the following items:
 - Host PC applications (ASI DataMyte TranSend™ and Tool Suite Editor™ software)
 - Adobe Acrobat® Reader software (a free PDF document reader)
 - *TranSend User's Guide* (this document)
 - Tool Suite Editor User's Guide (PDF file)
 - TranSend What's New? (PDF file)
 - TranSend Known Issues (PDF file)
2. **Serial Cable**—One ASI DataMyte # 91714 serial connection cable (used for direct communications between the host PC and a data collector unit).



NOTE: *If you are missing any of these components, call ASI DataMyte Support Services at 763-553-0455 Monday through Friday between 7:00 a.m. and 5:00 p.m. Central Standard Time.*

SECTION

2

Interface Basics



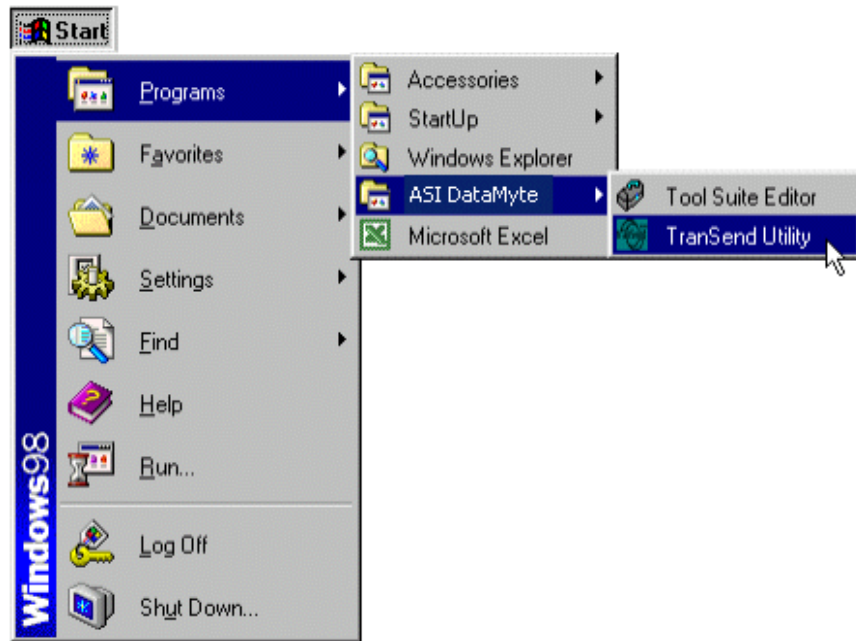
Starting the TranSend Utility

Using the Windows Start Menu

Steps:

1. Click on the Windows <Start> Button.
2. Select **Programs ► ASI DataMyte ► TranSend Utility** from the Start menu:

—*Note*—
The menu shown is for Windows XP; Windows 2000 and Vista menus are similar.



The Windows Start Menu

Note: You may want to create a shortcut to the program by clicking the *right* mouse button when you select **TranSend Utility** from the Start menu and then selecting **Send To ► Desktop** (create shortcut) from the menu. See your Windows online help for additional information, if needed.



The TranSend Main Screen

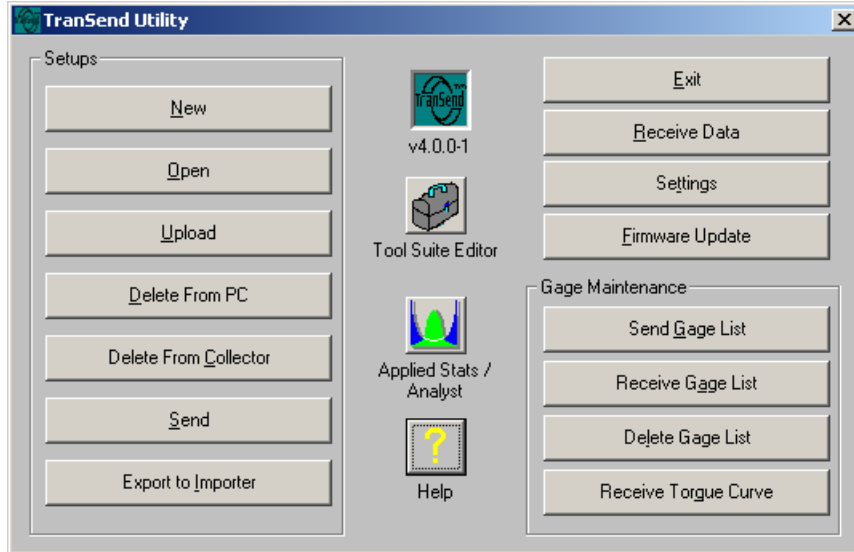
After starting the TranSend Utility, the main screen appears:

—*Note*—

The following languages are supported:

- Castellano
- Deutsch
- English
- Francais
- Italiano
- Portugues
- Svenska

To change the default language, re-run the installation and select the desired language during the installation procedure.



The TranSend Main Screen

Button Functions

1. **Setup-Related Functions:** The group of buttons in the **left side** of the main screen are intended for use with setups (or checklists):

- **New** – Create a new setup.
- **Open** – Open a created setup.
- **Upload** – Transfer a setup from the collector to TranSend.
- **Delete from PC**—Delete a setup on the PC.
- **Delete from Collector**—Delete a setup on the collector.
- **Send**—Send a setup to a collector.
- **Export to Importer**—Export setup to ASI DataMyte Importer.

2. **Miscellaneous Functions:** The buttons in the **top right side** of the main screen are for miscellaneous functions.

- **Exit**—Exit the program.
- **Recieve Data**—Transfer accepted data from a collector to the PC.
- **Settings**—Set default communication parameters and data collect options.
- **Firmware Update**—Update the firmware for a 501 collector.

3. **Gage Maintenance Functions:** The buttons in the **bottom right side** of the main screen are intended for tool functions.

- **Send Gage List**—Send a Gage List to the collector.
- **Recieve Gage List**—Receive a Gage List from the collector.
- **Delete Gage List**—Delete a Gage List from the host computer.
- **Recieve Torque Curve**—Receive a torque curve from 501/Auditor data collectors.

—*Note*—

You can also access a given function by pressing the **ALT** key and then the underlined letter for the function.

4. **Application Functions:** The buttons in the center of the main screen provide access to the following applications, provided that the application are installed on the same computer:



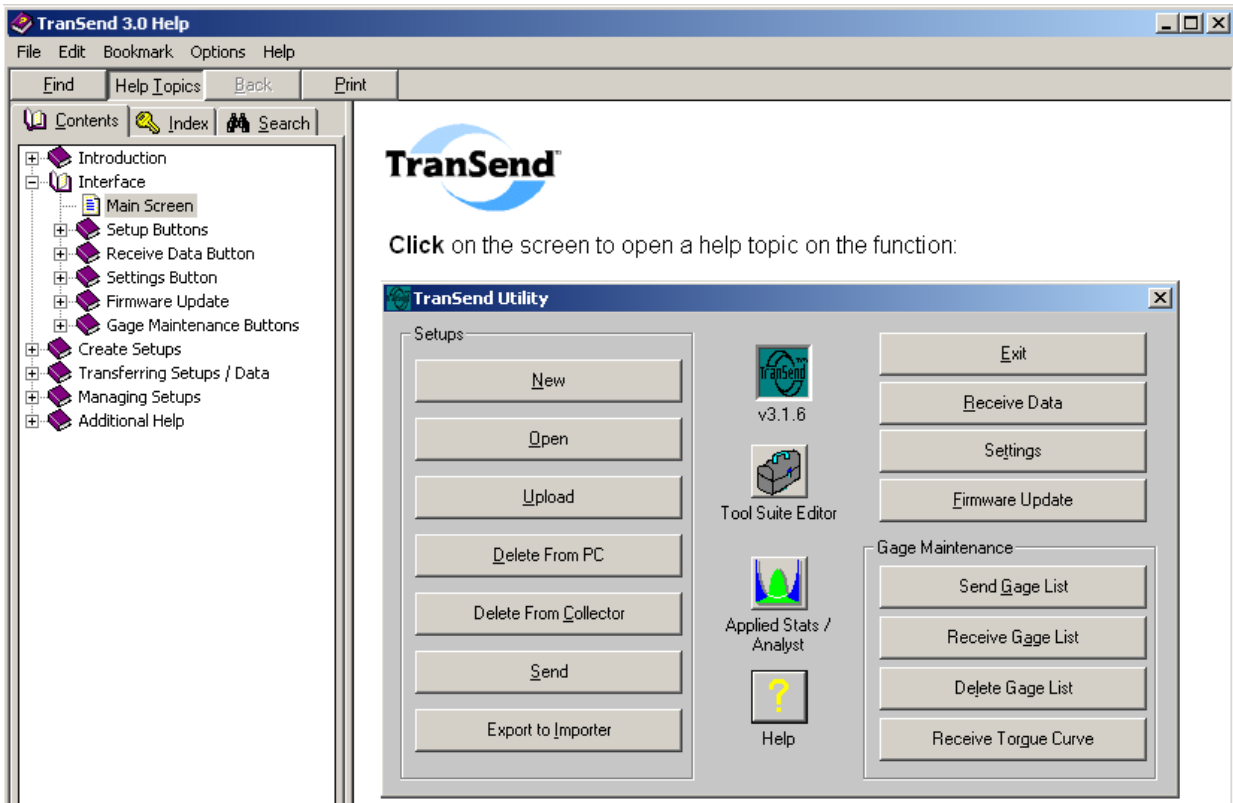
Tool Suite Editor—Used to define gage configurations for the ASI DataMyte Auditor data collector.



Applied Stats/Analyst—Support software used to analyze data collected using the TranSend Utility.



Online Help—Used to open the online help system for TranSend (see image, below).



The TranSend online help system

Step:

1. Click on the **Help** button to view the online help system.

Note: If the application is running when you click the button, that application moves to the foreground. Use the Windows interface (e.g., the ALT+Tab key or task manager) to return to TranSend.

SECTION

3

Creating Setups



Creating Setups

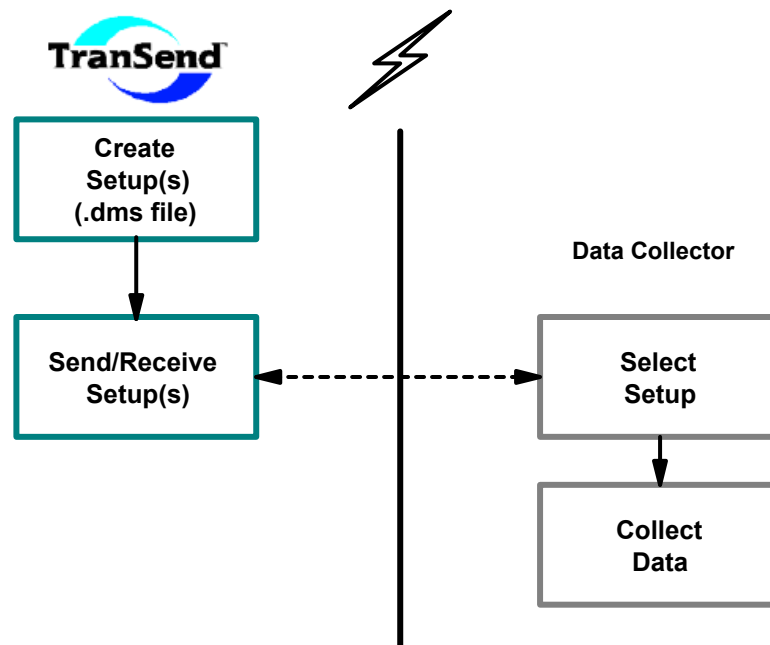
What is a setup?

ASI DataMyte data collectors use “**Setups**” (or checklists) to collect data about a process. Generally speaking, a setup is a configuration file containing a series of prompts for data input at a data collector.

There are two basic types of prompts you will see:

- **Labels**—Prompts for textual information during data collection. Label values are used as **filters** when retrieving and analyzing the collected characteristic data.
- **Characteristics**—Prompts for numeric information during data collection. Characteristics generally represent a measurement of a feature of a part.

Setups created using the TranSend Utility are stored as files using the following format: *part name.dms*. (where *part name* refers to the name given to the saved TranSend setup). These files are then transferred to the data collector using the #91714 serial cable.



The Configure Setup Screen

Setups are created using the TranSend Utility's **Configure Setup** screen.

Steps:

1. Start the TranSend Utility.
2. Click on the **<New>** button.

—Note—
Adjust the column size by clicking on the column border and dragging it to the desired position.

—Note—
You can maximize the Configure Setup screen by clicking on the Maximize button. See your operating system User's Guide for more information...

—Note—
Piece Labels are not supported for Auditor.

The screenshot shows the 'Configure Setup' window with three main sections:

- Part Setup Name:** Includes fields for 'Part Name' and 'Graphic File', and buttons for 'Save', 'Send', 'Cancel', and 'Edit'.
- Labels Setup:** Contains two tables. The first table has columns: Name, Source, List Name, Ditto, and AutoEnter. The second table has columns: Name, Source, List Name, Ditto, and AutoEnter.
- Characteristics Setup:** Contains a table with columns: Name, SG size, Resolution, Source, Reference #, and AutoScan. The first row is populated with 'Cause' and 'K'.

Additional controls include 'Limit Choice' (Actual/Deviation), 'Reserve Subgroup Size' (20), and buttons for 'Edit Lists', 'Clear Row', 'Insert Row', and 'Paste Row(s)'.

The Configure Setup Screen

Note that there are two main sections to this screen (**Label Setup** and **Characteristic Setup**) corresponding to the two types of setup elements (Labels and Characteristics). Each section is set up in a tabular format:

Element	Name
1			
2			
...			

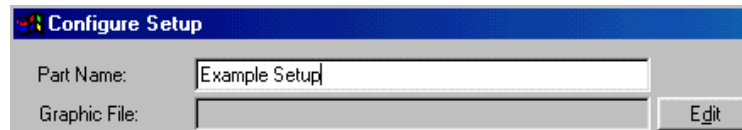
Creating a part setup involves filling out this table in a way that meets your expectations of how the part setup should operate at the data collector.

Naming a Setup

A part setup name can be up to 32 characters long and is **case insensitive** (e.g., ABC = abc). Moreover, each part name must be unique for use with a data collector (i.e., you cannot have two setups with the same name stored in the same data collector).

Note:

Since setup names are saved to disk in a DOS-compatible format, do not use any special characters such as "\", "/", "*", "?", "<", ">", "|," and so on, when naming your setup.



Steps:

1. Enter a unique name for the setup in the **Part Name** field.

Setup Naming Tip:

A part setup should be named so as to make it easily identifiable to the operator of the data collector.

Creating a Checklist Graphic

Auditor Checklists can have a graphic image associated with them to easily identify the part to measure or the task to perform. Graphic image files should be 476 pixels (in width) x 244 pixels (in height) and saved in either .JPG (recommended) or .BMP format. Note that .JPG file size should not exceed 40k. Color depth should be set to 8-bit (256 colors).

Steps:

1. Create a graphic image file using a graphics software.
2. Crop the focal region of the image to 476 x 244 pixels in size (approx. twice as wide as it is high).
3. Save the image in .JPG or .BMP format at a 256 color-depth.

Graphic Saving Tip:

Many graphics programs allow you to save an image using compression algorithms in order to optimize the file size (the smaller the file size, the faster the image will download to the DM4000 running Auditor).

Note:

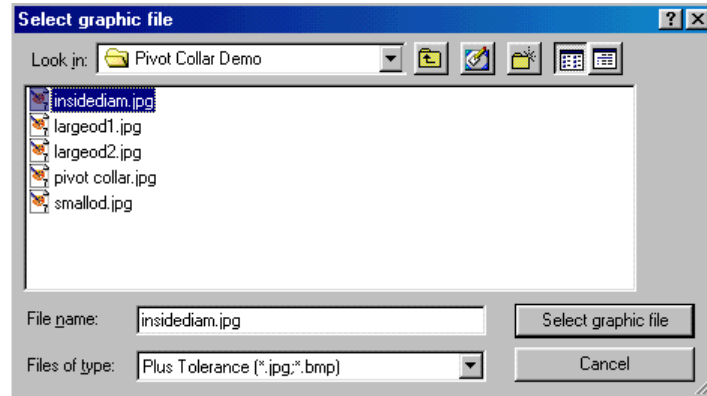
Graphic files should be saved at 8-bit, 256 color depth.

Associating a Checklist Graphic Filename

After you have created the desired graphic image file to be associated with the Checklist, you need to associate the filename with the setup.

Steps:

4. Click the **<Edit>** button to open the Select graphic file window:



5. Use the folder buttons to navigate to the location of the file.
6. Click the **<Select graphic file>** button to view a preview of the selected image and to confirm your selection of the file.



7. Click the **OK** button to associate the image with the current setup (**Cancel** is used to end the procedure without making the association; **Browse** opens a window to navigate to the location of the file to associate with the setup; and **Remove** is used to remove the association for the current image from the setup).

Creating Subgroup and Piece Labels

Labels are prompts for textual information during data collection. Labels are divided into three types: Subgroup Labels, Piece Labels, and Characteristic Labels.

*—Note—
Labels are used as filters when retrieving data using analysis software.*

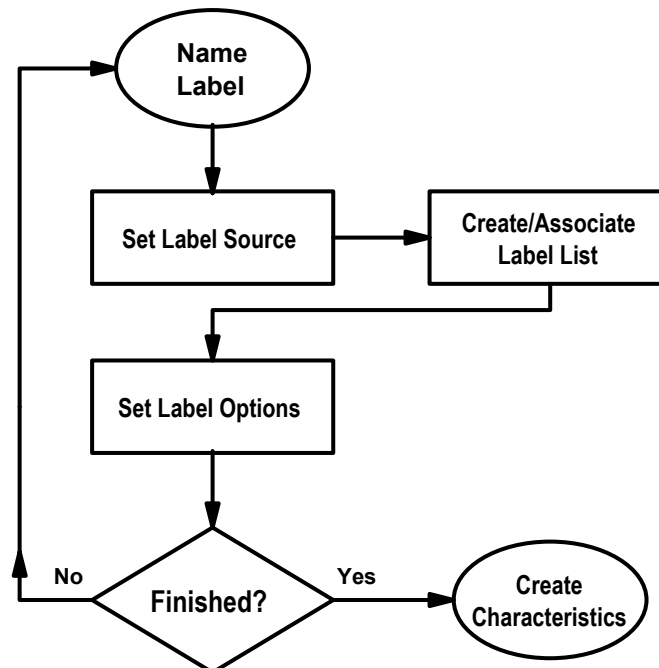
A **subgroup label** associates a text string with the data entered for a particular subgroup of characteristic readings. For example, a subgroup label called “Operator” prompts the user of a data collector for an operator name; the value entered by the user is the label value. The label value is then associated with the data readings the user enters for the given subgroup of pieces being inspected.

A **piece label** associates a value with the data entered for an individual piece (from a sample of pieces). For example, a piece label called “Serial Number” prompts the user of a data collector for a serial number for a given piece.

Note:

A setup can contain from 0–10 subgroup labels. The model DM4000 running Auditor does **not** support piece labels (they are ignored by the Auditor if included within a setup).

The following depicts the steps required to create labels for setups:



The Label Setup Area

The first part of the Configure Setup screen provides a table for defining the labels and label options to include in your part setup:

The screenshot shows the 'Configure Setup' dialog box. At the top, there are input fields for 'Part Name' (Example Setup) and 'Graphic File' (insidediam.jpg) with an 'Edit' button. Below this is the 'Label Setup' section, which is divided into two tables: 'SubGroup:' and 'Piece:'. Each table has columns for 'Label #', 'Name', 'Source', 'List Name', 'Ditto', and 'AutoEnter'. The 'SubGroup' table has three rows, with the first row containing 'Operator', 'K,L', and 'Operators'. The 'Piece' table has two rows, with the first row containing 'Serial no.' and 'K'. Arrows on the left point to these tables with labels 'Subgroup Labels' and 'Piece Labels'. A legend at the bottom identifies the columns: Label #, Label Name, Source, Label List, Label Options, and Scroll Bar.

Label #	Name	Source	List Name	Ditto	AutoEnter
1	Operator	K,L	Operators	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2				<input type="checkbox"/>	<input type="checkbox"/>
3				<input type="checkbox"/>	<input type="checkbox"/>

Label #	Name	Source	List Name	Ditto	AutoEnter
1	Serial no.	K		<input type="checkbox"/>	<input type="checkbox"/>
2				<input type="checkbox"/>	<input type="checkbox"/>

Label Names

Each label can be up to 12 characters long and are case insensitive (i.e., abc=ABC). You can use any type of characters to name your label (e.g., “Abc// end”).

Label Naming Tip:

When creating a label, keep in mind that it will appear as a prompt at the data collector. Therefore, the label should be named to make its meaning clear to the operator of the data collector.

Steps:

1. On row one, click on the cell under the **Name** column.
2. Type the desired label name in the cell.

Label Source

Label *source* refers to the location (at the data collector) from which a text string (i.e., label value) is entered. Valid sources for data collectors include the following abbreviations:

- **K**—for Keypad (the default source).
- **L**—for List (i.e., an on-screen list of pre-defined label choices from which an operator can choose). *See the next page for information about creating Choice Lists for your setups.*
- **Gx**—for gage port (for 501 data collectors: if you wish to enter label values using a Barcode Wand, then you would enter the gage port to which the Barcode Wand is connected, substituting a gage input port number for *x*).
- **Alias**—(Auditor data collectors only) Auditor data collectors permit the use of a gage alias (created using the Tool Suite Editor) as a source for a label (see the Tool Suite Editor online help for more information).

Multiple Sources

You can specify that the source for the label can come from *either* the **Keyboard** *or* **List** *or* **Gage** port by separating each identifier with a comma. For example,

K,L,G1

Steps:

1. On row one, click on the cell under the **Source** column.
2. Type the desired source(s) for the subgroup label in the cell.

Multiple Label Note:

Do **not** use square brackets to enclose multiple label source designators.

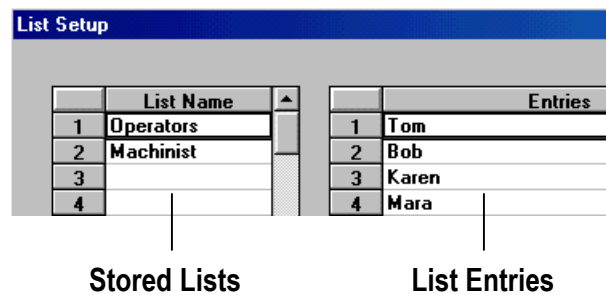
Creating Choice Lists

A Choice List (also called a “label list”) provides a list of up to 100 pre-defined label values (or entries) from which an operator can choose while collecting label data. Choosing a label entry from an on-screen list is often more efficient than typing it in using the data collector keypad.

Steps:

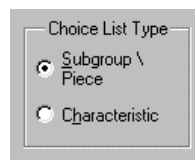
1. On the right of the Configure Setup screen, click on the **<Edit Lists>** button.

The List Setup window appears:



The **List Name** column shows any label lists already created and the **Entries** column shows the values for the selected List Name.

2. On the right side of the List Setup screen, select the **List Type** to create by clicking on the desired radio button:



3. Enter a unique **List Name** (up to 10 alphanumeric characters long). If you enter a list name that is already in use, TranSend displays an error message and you will need to rename the list.
4. In the **Entries** column, enter a value in the list (up to 24 characters long per entry). Note that entries appear at the data collector in the order they appear in the list.
5. Continue to add entries to your label list as desired; up to 100 entries per list are allowed. Use TAB to move through the list.
6. Click **OK** when finished.

Associating a Choice List

The point of a Choice List is to provide a convenient means for operators to select a value in response to a label prompt. Follow these steps to associate a list of values with a label.

Steps:

1. On the row for the desired subgroup label, click on the drop-down list button under the **List Name** column.

	Name	Source	List Name
1	Operator	K,L	Operators
2			(none)
3			Machinist
			Operators

2. Select the appropriate label list from the drop-down list (note that the Source cell is automatically updated to include an “L” reference).

Setting Subgroup / Piece Label Options

There are two options for subgroup labels that affect the manner in which subgroup label data is collected. These options are called “Ditto” and “AutoEnter.”

- **Ditto**—Repeats the last entered label value (for the current label) in the data entry box (the operator then presses ENTER to confirm the value shown at the prompt).
- **AutoEnter**—Automatically enters a previous entry. When used in conjunction with Ditto, the user will input the value for the label once, and thereafter the value will be automatically repeated (dittoed) and input (auto-entered) into the data collector (note that to use AutoEnter, Ditto *must* be activated for the label).

Auto Enter is a time-saver when an operator is confident that the process information during the data collection sequence will not change. With both Ditto and Auto Enter activated, the operator inputs subgroups label information only once, perhaps at the start of a shift, and the same data is entered for subsequent collection.

For the DM4000 running **Auditor** software, labels are displayed on a single screen at the outset of data collection. Though ditto works the same as described above, the ditto and auto-enter combination works only if all subgroup labels are set to use both options (in which case, to change the initial values the operator must tap the Labels button and input the starting values).

Step:

1. On the row for the desired label, click on the **Ditto** and **AutoEnter** buttons to activate (or deactivate) the option (a checkmark appears if the option is activated).

	Name	Source	List Name	Ditto	AutoEnter
1	Operator	K,L	Operators	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Label Name
Label Source
Label List
Label Options

Creating Characteristic Labels

A characteristic label is used to tag a characteristic subgroup with general information such as gage serial number or Vendor ID.

Unlike labels that appear as prompts during data collection, characteristic labels require that the operator manually enter the information for the currently active characteristic subgroup.

A setup can contain up to three characteristic labels (up to 12 characters long), one of which is reserved for the Cause label:

Characteristic:

	Name	Source	List Name	Ditto	DataLogging
Built-in → 1	Cause	K		<input type="checkbox"/>	<input type="checkbox"/>
2	Action	K,L	Actions	<input type="checkbox"/>	<input type="checkbox"/>
3				<input type="checkbox"/>	<input type="checkbox"/>

Label Name
Label Source
Label List
Label Options

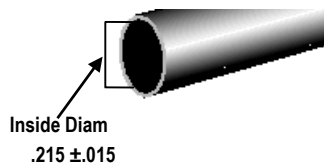
Note: The same functionality for subgroup (and piece) labels applies to characteristic labels (except that there is no AutoEnter function that can be used in conjunction with ditto).

The **Data Logging** option lets characteristic label data be printed as it is collected (this function is not available for Auditor). Data logging can only be used when a printer is connected to the data collector (see your data collector’s *User Guide* for more information about using a printer).

The **Cause label** is used to identify a particular characteristic subgroup when an out-of-control condition occurs. All setups contain a Cause Label: it cannot be created nor can it be removed.

Creating Characteristics

Characteristics are prompts for numeric information during data collection. These prompts are used to capture dimensional aspects of a product so that a process may be monitored for control and capability. The numeric information, representing the actual measurements of a product, is then associated with the given characteristic, and analysis of the product’s dimensional tolerances is possible.



In this example, a characteristic called “Inside Diam” is specified as having a nominal value of .215 ±.015. At the data collector, a prompt displays “Inside Diam” to the operator. The operator then responds to the prompt by entering numeric information.

The methods for inputting characteristic data (i.e., characteristic “source”) include various types of gages or measuring devices (as well as the keyboard or other input devices).

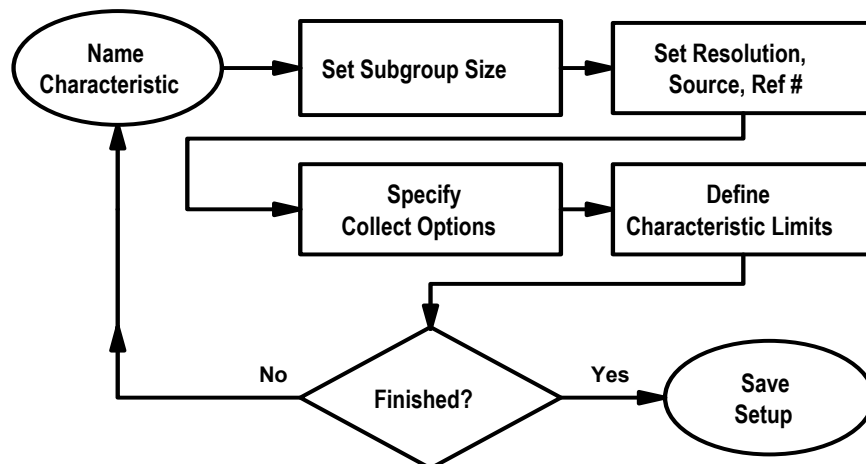
Caution:

Since Microsoft Excel can only support up to 250 columns of data, data collected for setups using more than 250 characteristics will NOT be able to be analyzed using Excel.

Note: A setup can make use of **up to 999** different characteristics (with subgroup sizes from 1–200) to capture information about a part or process (the actual number of characteristics that a setup can use, however, is constrained by the amount of memory installed at the data collector. See your ASI DataMyte data collector *User Guide* for more information about memory limitations and upgrades).

General Procedures

The following diagram depicts the steps required to create characteristics for your data collector setups:



The Characteristic Setup Area

The lower part of the Configure Setup screen provides a table for defining the characteristics to include in your part setup:

Limit Choice Select Reserved SG Size

Limit Choice: Actual Reserve Subgroup Size:
 Deviation

Move Row Buttons →

Selected Row

Char #	Name	SG size	Resolution	Source	Reference #	AutoScale
1	Small OD	2	0.1000000	[cal.k]	1	<input type="checkbox"/>
2	Large OD#1	2	0.1000000	[cal.k]	2	<input type="checkbox"/>
3	Large OD#2	2	0.1000000	[cal.k]	3	<input type="checkbox"/>
4	Taper	2	0.1000000	[rng(c1,c2).k]	4	<input checked="" type="checkbox"/>
5	Inside Diameter	2	0.1000000	k	5	<input type="checkbox"/>
6		5	0.0000500	K		<input type="checkbox"/>

Char # Characteristic Name Characteristic Options → Scroll Bar

Naming Characteristics

Characteristic names can be up to 100 characters in length and should be composed in such a way that the operator clearly understands the nature of the intended measurement task (note that for collectors other than Auditor, characters past the 24th place will be ignored).

Step:

1. Click on the cell under the **Name** column and type a unique characteristic name.

—Note—
 Default settings are changed by clicking on the **Settings** button on the main screen.
 See Section 4, “Default Settings,” for more information.

1	Small OD	5	0.0000500	K	
		}			
	Characteristic Name	Default Values			

When you do, default values (as configured in the **Settings** window) appear in the characteristic options cells.

Setting Subgroup Size

A *subgroup* is a sample of pieces for which data will be collected. The number of pieces that comprise a subgroup is called the *subgroup size*.

Not all characteristics must use the same subgroup size (i.e., subgroup size can vary for different characteristics). For example, suppose you wanted to obtain a sample of five readings for one diameter, another five readings for another diameter, but just three readings for length. A setup that uses all three of these characteristics can be illustrated using the following table:

Subgroup (Sample) Size →

	Piece 1	Piece 2	Piece 3	Piece 4	Piece 5
Diam1					
Diam2					
Length					

Note: You should decide the sampling size and frequency for each characteristic property you are defining.

Steps:

1. Click twice on the cell under the **SG size** column.
2. Type the desired subgroup size (from 1 to 200) in the cell.

—**Note**—
You can define a default subgroup size for characteristics by clicking on the **Settings** button on the main screen.

See Section 4 for more information.

	Name	SG size
1	Small OD	2

|
Subgroup Size

Reserving Subgroup Stack Space

Subgroups collected at a data collector are incremented in an internal memory “stack.” You can set aside stack space (i.e., memory allocation) for collected subgroups by specifying a number in the “Reserve Subgroup Size” box (if left unspecified, the default value is 20):

Reserve Subgroup Size:

For 501/9xx data collectors, this number represents the number of subgroups reserved in memory *before* a “rolloff” condition occurs; for Auditor, it represents the number of subgroups retained in memory *after* data has been harvested (for more information, see your data collector’s *Hardware User Guide*).

Setting Characteristic Resolution

Since not all measurements may require the same numeric precision, you can specify the degree of resolution for each characteristic in a setup.

Characteristic resolution refers to the number of digits a measurement will be *rounded* when entered at the data collector. The available range of resolution is from 0.0000001 to 1.0000000.

Resolution is defined by selecting the number of digits you want to use to express a measurement. For example, setting the resolution to 0.00005 means that measurements will be rounded up from the measurement's fifth decimal place; setting it to 0.000005 means that measurements will be rounded up to the sixth decimal place, on so on (the upper limit on resolution is 7 places).

Note: A characteristic's resolution is usually set to match the resolution of the gage being used to measure the characteristic. Resolution also affects the bin width of the histogram chart displayed on your data collector.

Steps:

1. Click twice on the cell under the **Resolution** column.
2. Type the resolution (from 0.0000001 to 1.0000000) in the cell (put a "1" at the place where you want the resolution to stop).

—*Note*—
You can define a default resolution for characteristics by clicking on the **Settings** button on the main screen.

See Section 4, "Default Settings," for more information.

	Name	SG size	Resolution
1	Small OD	2	0.0001000

|
Resolution

Setting Characteristic Source

Source refers to *where* a characteristic reading is to be derived. TranSend uses symbols to refer to source locations. The keyboard, gage inputs, formulas, other characteristics, or a combination of these can all be sources.

Multiple (i.e., alternate) sources are comma delimited inside of square brackets (for instance, the source line **[K,G1]** refers to *either* the keyboard *or* a gage attached to port 1 on the data collector).

Source Symbols

A characteristic's source can be up to 80 characters long. The following table lists valid source symbols for a characteristic:

Note:

To use a 501 or 3053 setup in the Auditor, make your **alias** names the same as the source used for those products (e.g., g1a).

Source	Meaning	Examples
K	Keypad (default value)	K
Gx	Gage on COM port <i>x</i>	G1, G2
Gnx	Gage on port <i>n</i> , configuration <i>x</i>	G11, G12, G21, G2a
Gnx{y}{z}	{braced values} override gage configuration parameters	G2a{3}, G2a{5.5}{7}
[,]	Or	[G11,K]
Cx	Characteristic <i>x</i>	C1, C4, C12
Sx	All data for characteristic <i>x</i> in current subgroup	S2, S4, S6
Rx	Reference <i>x</i> (Auditor only)	R1, R23, R343
N	Nominal	N
Alias	5 character gage alias using the Tool Suite Editor (Auditor only)	Wand, Flush, Cal

Cx note: Characteristics are referenced according to their order in a given setup (called "collect order"). For instance, the first characteristic is referenced as "C1," the second as "C2," and so on. More information about **Rx** (reference number) is provided on page 30).

501 Torque Source Gage Parameter Overrides

The ASI DataMyte model 501 data collector supports four algorithms for angle-based residual torque measurement:

1. Peak Torque Start Threshold Override.

Example: G2d{35}

The gage configured for port 2 (configuration *d*) uses 35 as the Start Threshold value. This value is used in place of the Threshold Value defined by the gage configuration G2d in the 501 data collector. This override functions for time-based Peak Torque measurements only.

2. Torque at Angle Override.

Example 1: G2a{5.25}

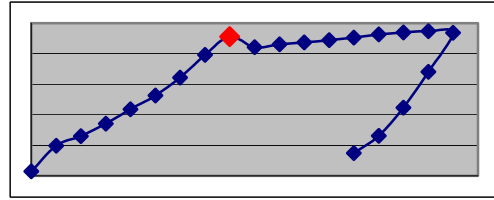
Example 2: G2a{5.25}{34.1}

The first example provides the source for a gage configured for port 2 (configuration *a*) that uses 5.25 as the Capture Angle. The second example adds an additional override that sets the torque Start Threshold at 34.1 torque units.

3. Breakaway based on Angle.

Example 1: G2c{8}

Example 2: G2c{8}{17}



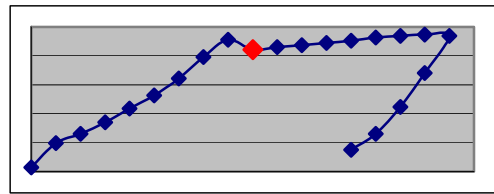
In example 1, the gage configured for port 2 (configuration *c*) uses 8 as the percent of full scale per degree of rotation. Example 2 adds an additional override that sets the torque Start Threshold at 17 torque units.

This algorithm will be used when the gage type parameter is set to breakaway torque and the sample event is set to angle. The breakaway point of interest will be defined as the point on the torque/angle curve where the torque rate to the next point on the curve is below the user defined threshold.

4. Restart based on Angle.

Example: G2c{8}

Example: G2c{8}{17}



The gage overrides for this algorithm are identical to those of Breakaway based on Angle, above.

The restart algorithm will first find the breakaway point as described above. Then *n* subsequent points as defined by the 'Restart Window' gage parameter will be examined. Starting with the second point after breakaway, if this point has a reading greater than the point before it or greater than the breakaway point, then the lowest point between this point and the breakaway point (inclusive) is considered the restart point of interest. If no point past the breakaway point and up to the number of points in the restart window meets the criteria then the restart point of interest is the breakaway point.

Source Arithmetic Operators

Source arithmetic operators are used to create source formulas. The following table lists valid **operators** for creating a source formula:

Operator	Meaning	Examples
-	Minus	(C1-C2), G2-C1, G1a-C2
+	Add	(C3+C2), G1+3.1416
*	Multiply	(C3*N)-.2, G1*.0005, C3*C4
/	Divide	(C1/C2), C4/.018
	Through	(C1 5), (G1 4)
~ or ^	Exponent	(C1~2), (G1~2)/3.1416, (G1^2)
,	And	AVG(C1,C2,C3)

Note: The data collector will evaluate source operators according to the standard algebraic order of operations.

Source Boolean Operators

A Boolean expression evaluates to either 1 (true) or 0 (false). You can use these operators in source formulas to create “if-else” logical constructions.

The following table lists Boolean operators for creating source formulae:

Function	Meaning	Examples
>	if x is greater than y, return 1, else return 0	$((C1 > 10) + (C1 < 5)) * ((C1 - N) * (C2 * -1))$
<	if x is less than y, return 1, else return 0	$((C1 < C2) * C1) * C2$
=	if x equals y return 1 else return 0	$(G1 = N) * (G1 - 0.002)$

Mathematical Source Functions

A source formula can also use mathematical **function operators**. The following table lists valid function operators for creating a source formula:

Note:

See your data collector User Guide for detailed information about supported source functions.

Function	Meaning	Examples
Abs	Absolute value	Abs(C2), ABS(AVG(C1 7))
Avg	Average	Avg(C1 5), AVG(S1,S2)
Max	Maximum value	Max(S2), MAX(G1 4)
Med	Median value	MED(S2), MED(C1 5)
Min	Minimum value	MIN(S9), MIN(C1 7)
Pk	Peak Reading	PK(C1)
Pmn	Peak Minimum	PMN(G21)
Pmx	Peak Maximum	PMX(G316)
Rng	Range	RNG(C1 5), RNG(G1 8)
Sdv	Std Deviation	SDV(S2), SDV(S2,S3)
Sqt	Square Root	SQT(C1)
Sum	Summation	SUM(C2 4)
Tmn	Minimum TIR	TMN(G1 3)
Tmx	Maximum TIR	TMX(G1 4)
Tps	True Position	TPS(Cal,g1,C1)
Trg	Range of TIR	TRG(G1 2)
Sin	Sine of x	Sin(90), Sin(g1)
Cos	Cosine of x	Cos(45), Cos(g2)
Tan	Tangent of x	Tan(30), Tan(C1-C2)
Asin	Arc sine of x	Asin(1), Asin(g1)
Acos	Arc Cosine of x	Acos(.707), Acos(g3)
Atan	Arc Tangent of x	Atan(1.4), Atan(r7-R14)

Note: The PK, PMN, and PMX (i.e., peak) functions can only be used with the model 953 data collector using the LVDT Gaging System, version 1.1 (or higher). TMN, TMX, and TRG are not supported for Auditor.

Source Examples

Keyboard as source

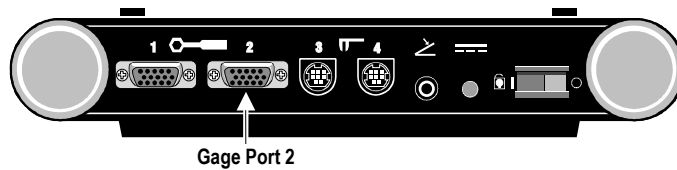
Specifying source as **K** means that the reading for the characteristic derives solely from the Keyboard or Keypad.

Source Example	Description
K	Obtain reading from the Keyboard or Keypad

Gage Port as Source (all data collectors except Auditor)

Gage ports on model 953, 3053, or 501 (not Auditor) data collectors are specified using one of two references:

- **G x** —where x is the number of the gage (or com) port on the data collector (i.e., **G2** refers to the gage attached to port 2 on the data collector).



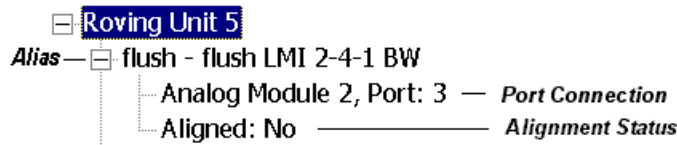
Note: The ASI DataMyte 501 and 3053 support the use of port sub-configurations (designated by G1a, G1b, and so on), allowing you to have more than one gage configuration for the same physical gage port (this allows you to switch gages on the fly when the operator is collecting data). See the ASI DataMyte 501 and 3053 *User Guides* for more information about setting up gage port sub-configurations.

- **G xy** —where x is the multiplexer address and y is the port number on the multiplexer. For instance, **G23** refers to the gage attached to the third port on the second multiplexer (or the multiplexer whose address is two).

Alias as Source (Auditor only)

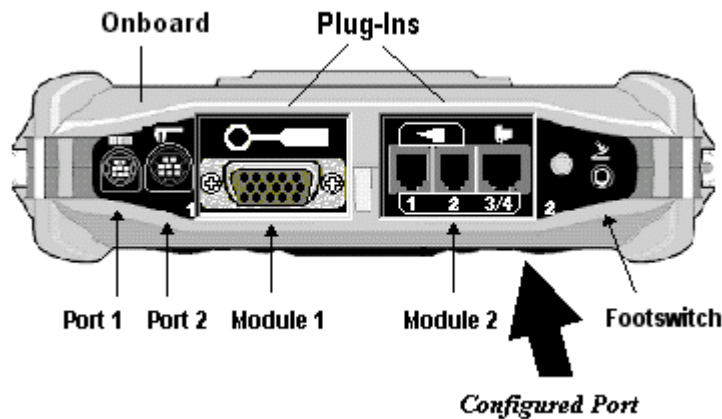
The Tool Suite Editor is used to create a list of gages (called a Tool Suite) for use with a DM4000 data collector running Auditor software. This list of gages is transferred to the DM4000 and appears as a tree-like structure in the Auditor’s Toolkit List.

For example, if a Tool Suite called “Roving Unit 5” is created and transferred to the Auditor, it might appear in the Auditor’s Toolkit List as follows:



Notice that the alias named “flush” is used to refer to an LMI 2-4-1 gage located on (plug-in) analog module 2, port 3 on the Auditor:

—Note—
See Tool Suite Editor online help or *User’s Guide* for additional information about creating aliases and Tool Suites.



NOTE: When using an alias in a source, care must be taken to ensure that the alias exists in the corresponding Tool Suite. The correct Tool Suite must be loaded in the Auditor for the source to be valid.

Source Example	Description
flush	Alias for LMI 2-4-1 gage configured for the analog module 2 plug-in, port 3.
Cal	Alias for Mitutoyo caliper configured for the onboard port 1.
T100B	Alias for a 100 ft/lb torque wrench configured for the torque module 1.
G1a	Alias for a gage previously configured for a 501.
G3	Alias for a gage previously configured for a 953.

Setting Characteristic Source

Steps:

1. Click twice on the cell under the **Source** column.
2. Type the source for the characteristic in the edit field (up to 80 characters).

	Name	SG size	Resolution	Source
1	Small OD	2	0.0001000	flush

|
Source

Warning: No error-checking is performed on your source: an invalid source will be only be detected at the data collector.

Reference Number (Auditor only)

Characteristics are normally referenced according to their sequence in a given setup (i.e., “collect order”). For instance, if the first characteristic is called “Small OD,” it is assigned “C1” in the setup; if the second characteristic is called “Small ID,” it is assigned “C2,” and so on.

A characteristic source may reference one or more characteristics in a calculation, for example, C4-C6/2.

In the event that a characteristic is deleted from (or added to) a setup, however, the use of characteristic sequence number would impair the expected result of the formula. For example, if you were to define a source for a characteristic as (C4-C6/2), but later removed the first characteristic from your setup, the source reference would need to be redefined as (C3-C5/2).

In order to protect a source formula from being invalidated in this way, you can assign a characteristic **reference number** that will tag the characteristic with a permanent reference -- independent of characteristic ordering (duplicate reference numbers are not allowed).

	Name	SG size	Resolution	Source	Reference #
1	Small OD	2	0.0001000	flush	1

— Reference #

In the example shown above, the C1 characteristic (i.e., “Small OD”) is assigned a Reference number of 1 (R1). If another characteristic references this characteristic, it will remain R1 even if additional characteristics are added to (or removed from) the setup.

Setting Characteristic Collect Options

Collect options for characteristics are choices that affect how characteristic data is collected during data collection. Placing a checkmark in the option box activates the option:

	Name	AutoScan	Boundary	Alarms	AutoGraph
1	Small OD	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Collect Options

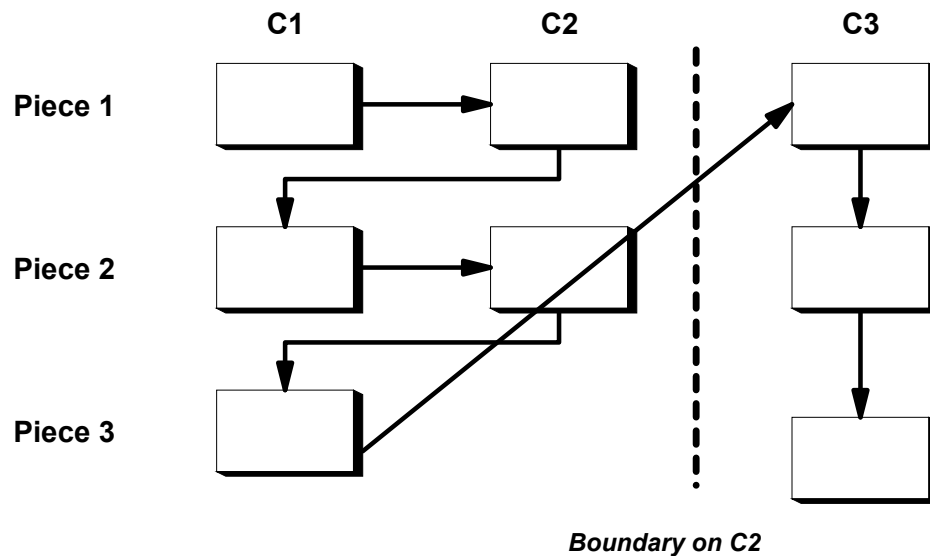
Auditor users: AutoGraph is not supported.

AutoScan

AutoScan is a collect option that causes the data collector to automatically scan for a reading(s) and then proceed to the next characteristic (if any). AutoScan is normally used when a characteristic source is a calculation or when multiple gage readings are required concurrently (as in a fixture or TIR application).

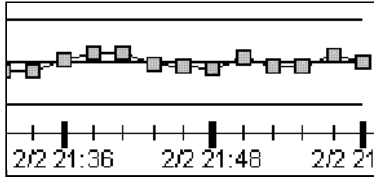
Characteristic Boundary

The default sequence for collecting characteristic data is to measure characteristic-by-characteristic for each piece. Placing a “**boundary**” on a characteristic, however, causes the data collector to complete the portion of the data collection sequence below the boundary, before crossing the boundary:

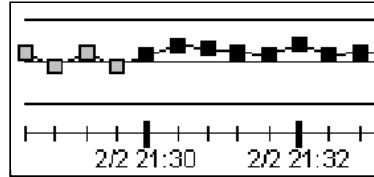


Alarms (Trend Alert)

A data collection **trend** (or alarm) is a collection of subgroups whose values exhibit a sequence that may indicate that a characteristic is going out of control:



If a process is **“in control”** (i.e., within control limits), the subgroups will tend to be randomly plotted around the centerline.



If a process begins to show a **non-random pattern**, an out-of-control condition called a trend is exhibited. In this example, 8 consecutive Subgroups are plotted above the Centerline. This is called a **shift trend** and may indicate that the process is starting to run “high.”

An **alarm** is a collect option that causes the data collector to alert the operator when a trend or control limit violation occurs.

AutoGraph

AutoGraph is a collect option that causes an ASI DataMyte data collector³ to automatically display a selected chart for a characteristic during data collection. See your data collector’s *Hardware User Guide* for additional information, if necessary.

Step:

1. Place a checkmark to activate the desired characteristic collect options.

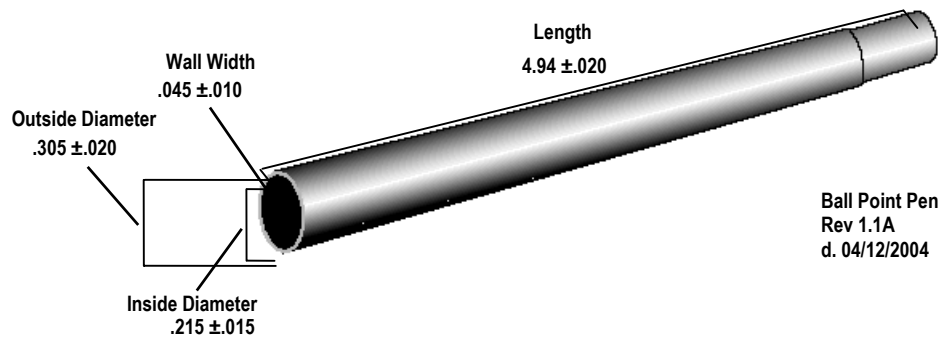
Note: If your data collector does not support the selected options, it will ignore your selections.

³ Only data collectors that support SPC provide Auto Graph capabilities. See your data collector User’s Guide for more information. Note that the Auditor data collector does not support Auto Graph.

Defining Characteristic Limits

Part Specifications

Part specifications refer to a list of the required properties or dimensions of a part or product. Specifications for characteristics include the nominal, upper and lower specification limits (or nominal and \pm tolerance), caution limit, reasonable limits, and control limits. For example, an engineering blueprint or mechanical drawing of a part called Ball Point Pen might look something like this:



TERMS >

Nominal

The target value of a product dimension or measurement (i.e., the ideal value for a dimension).

Specification Limits

The highest and lowest values of a product dimension or measurement that is specified as acceptable. Limits may be expressed as actual values or as deviations from the nominal.

Caution Limits

A percentage of the characteristic's total specification used to identify upper and lower threshold limits beyond which an operator is alerted.

Reasonable Limits

Limits above or below which a reading is considered "unreasonable" and thus is not stored at the data collector.

Control Limits

Limits, usually derived from historical data and based on statistical calculation, above or below which a reading or average of readings is considered statistically "out of control."

Limit Choice

Specification limits can be expressed as either actual values (i.e., nominal, upper limit, lower limit) or as a deviation from nominal (i.e., nominal \pm tolerance), depending on whether you select “Actual” or Deviation” from the Characteristic Setup screen area:

Limit Choice: Actual
 Deviation

Step:

1. Select either “**Actual**” or “**Deviation**” from the Limit Choice select buttons (**note**: your selection affects the values for *all* characteristics defined in this part setup).

Actual Limits

If you selected Actual as your Limit Choice, the Characteristic Setup screen will show columns for “Nominal,” “Eng. Limit High” and “Eng. Limit Low,” respectively:

	Name	Nominal	Eng. Limit High	Eng. Limit Low
1	Small OD	13.0	15.0	11.0

Actual Limit Cells

Deviation Limits

If you selected Deviation as your Limit Choice, the Characteristic Setup screen will show columns for “Nominal,” “Plus Tolerance” and “Minus Tolerance,” respectively:

	Name	Nominal	Plus Tolerance	Minus Tolerance
1	Small OD	13.0	2.0	2.0

Deviation Limit Cells

Specifying a Caution Percentage

Caution Limits immediately indicate to the operator (via color-designated LEDs or on-screen bar chart) the status of an individual reading during data collection. Caution limits are not supported by the Auditor data collector.

Caution limits are determined by the following formulas:

—*Note*—
 These formulas are expressed using Engr. High and Low limits (not deviation limits).

- **Upper Caution Limit** = Engr High - ((Engr High - Nominal) * Caution Limit %).
- **Lower Caution Limit** = Engr Low + ((Nominal - Engr Low) * Caution Limit %).

	Name	Caution %
1	Small OD	15

└──────────┘
 Caution Percentage

Note: For model 9xx and 3xxx data collectors, the value entered in the Caution % field affects the behavior of the **LED** Pendant’s lights. E.g., if 75%, is set here, the Pendant’s LEDs will turn Yellow when a reading falls within 75% of the tolerance.

Step:

1. Click in the **Caution %** column and type the desired percentage in the cell (from 0 to 99).⁴

⁴ To “tighten” caution limits, use a larger number as the caution percentage; conversely, to “loosen” limits, use a smaller number.

Specifying Reasonable Limits

Reasonable Limits refer to user-defined limits above or below which a reading is considered “unreasonable” and is thus not stored. Reasonable limits are used to screen obviously bad input during data collection (i.e., if an operator accidentally measures length instead of width). Reasonable limits are not supported by the Auditor data collector.

Note: Reasonable Limits should not be used as specification limits. Set Reasonable Limits outside of specification limits, but close enough so that incorrect readings will not be accepted.

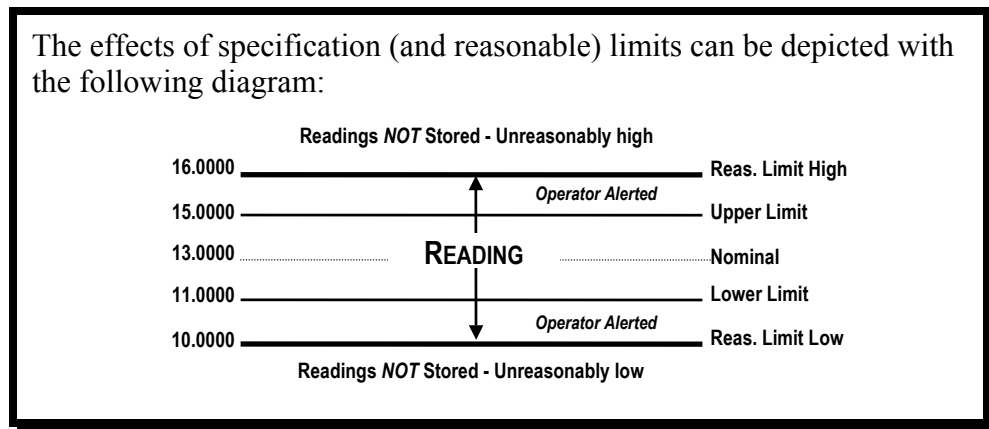
	Name	Eng. Limit High	Eng. Limit Low	High Reasonable	Low Reasonable
1	Small OD	15.0	11.0	16.0	10.0

Reasonable Limit Cells

Steps:

1. Click in the **High Reasonable** column and type the desired value in the cell.
2. Click in the **Low Reasonable** column and type the desired value in the cell.

The effects of specification (and reasonable) limits can be depicted with the following diagram:



Specifying Control Limits

A process is said to be in statistical control when all special causes of variation are eliminated and only common causes of variation are left. Statistical control is evidenced in a number of ways, including the use of Shewart control charts wherein all points remain between set control limit lines. If a sample statistic exceeds set control limits, the presence of an assignable cause or process shift might have occurred. For more information regarding control limits, please see *The DataMyte Handbook*.

Control Limits are normally derived from historical data and are based on statistical calculation. However, you may optionally manually enter control limits by inserting the relevant limit in the appropriate cell in the Characteristic Setup screen:

	Name	XUCL	XLCL	RUCL	SUCL
1	Small OD				

Control Limit Cells

The Characteristic Setup screen column headers for control limits include the following:

- **XUCL**—X-Bar upper control limit
- **XLCL**—X-Bar lower control limit
- **RUCL**—Range upper control limit
- **SUCL**—Sigma-bar upper control limit

Please see your data collector User's Guide for the statistical formulas used in deriving control limits.

Note: Control limits **are** supported by the Auditor data collector (version 3.1.0 or higher). See the Auditor User's Guide for additional information.

Characteristic Descriptions

Five characteristic description fields are provided at the end of the Characteristic Setup area. Use these fields to provide additional (textual) information about the characteristic that can be viewed by the operator while collecting data.

	Name	INSTRUC 1	INSTRUC 2	INSTRUC 3	INSTRUC 4
1	Small OD	Wipe oil from axle			
2	Large OD#1				
3	Large OD#2				
4	Taper	Rework taper under 1	Scrap taper over 1		

Characteristic Description Fields

Note: The column header text is defined in the TranSend Default Settings screen (see Section 4, “Default Settings,” for more information).

You can enter text strings up to 24 characters in length which will appear at the data collector as a description of the characteristic. For detailed information, see your data collector’s *Hardware User Guide*.

Auditor Characteristic Descriptions and Graphics

The Auditor data collector can display both a graphic image or a text description of the characteristic’s measurement task (if both are specified, the operator can choose to toggle between them at the Auditor).

Auditor characteristics can have a graphic image associated with them to easily identify the measurement task to perform. Graphic image files should be 476 pixels (in width) x 244 pixels (in height) and must be saved in .JPG (recommended) or .BMP format. For .JPG files, file size should not exceed 40k of disk space.

Note:
Graphic files should be saved at 8-bit, 256 color depth.

Steps:

1. Create a graphic image file using a graphics software program.
2. Crop the focal region of the image to 476 x 244 pixels in size (approx. twice as wide as it is high). Do not exceed 40k in size.
3. Save the image in .JPG or .BMP format at a 256 color-depth.

Graphic Saving Tip:

Many graphics programs allow you to save an image using compression algorithms in order to optimize the file size (the smaller the file size, the faster the image will download to the Auditor).

Associating a Characteristic Graphic Filename

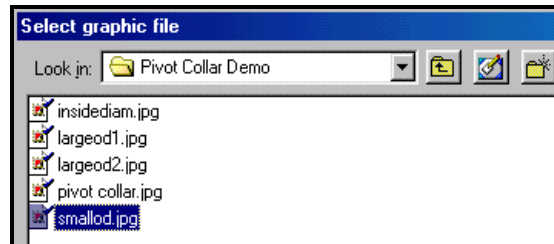
After you have created the desired graphic image file to be associated with the characteristic, you need to associate the filename with the characteristic.

Steps:

4. Scroll to the end of the row and click twice on the **Graphic File** cell:

	Name	INSTRUC 5	Graphic File
1	Small OD		

5. Select the desired graphic file from the Select graphic file window (use the folder buttons to navigate to the location of the file).



Note:

When a graphic file is associated with a characteristic, a *copy* is placed in a subdirectory with the same name as the setup. Subsequent changes to the graphic file must be made to this copy or the file will need to be re-selected in the setup.

6. Click the **Select graphic file** button to view a preview of the selected image and to confirm your selection of the file.



7. Click the **OK** button to associate the image with the current characteristic (**Cancel** is used to end the procedure without making the association; **Browse** opens a window to navigate to the location of the file to associate with the setup; and **Remove** is used to remove the association for the current image from the setup).

Setting Characteristic Alarms (Trend Alert)

A data collection alarm presents one or more characteristic labels (as set in the Characteristic Labels portion of the Labels Setup area) to be displayed to the operator upon detection of a specified condition. For each characteristic you want to set alarm conditions, place a checkmark in the **Alarms** box. To specify the data collection conditions for displaying the alarms, click twice on the relevant **Alarms** cell in the grid:

	Name	Source	List Name
1	Cause	K,L	Causes
2	Action Taken	K,L	Actions
3			

Characteristic Labels

	Name	Alarms	Cause Alarms	Char Label 2 Alarms	Char Label 3 Alarms
1	Small OD	<input checked="" type="checkbox"/>	FST_HLV_LL	HLV_LL	

Characteristic Alarms

—Note—

Each alarm cell in the grid corresponds to a characteristic label. E.g., **Cause Alarms** corresponds to the Cause Label, **Char Label 2 Alarms** corresponds to the second characteristic label, and so on. For 5xx and 3xxx data collectors, if a label is defined but no conditions are specified, then the default conditions will remain in effect.

Alarm Conditions

When you click twice on a selected Alarm cell, a dialog window appears allowing you to specify the desired alarm conditions for that label:

- **First piece in the subgroup (FST)**—Prompt for selected label(s) at the outset of data collection for each subgroup.
- **Last piece in the subgroup (LST)**—Prompt for selected label(s) at the end of data collection for each subgroup.
- **Control limit violation (CLV)**—Prompt for selected label(s) whenever a control limit violation is detected for the characteristic. Note that the characteristic must have control limits defined.
- **Run Trend (RUN)**—A run trend occurs when a pre-defined number of consecutive subgroups fall into an ascending or descending pattern.
- **Shift Trend (SFT)**—A shift trend occurs when a pre-defined number of consecutive subgroups fall on one side of the centerline.
- **Instability Trend (IN1/ IN2)**—An instability trend occurs when a number of subgroups out of a set of subgroups falls beyond a specified sigma value on one side of the centerline.
- **Mixture Trend (MIX)**—A mixture trend occurs when a number of subgroups out of a set of subgroups fall outside Sigma on either side of the centerline.
- **Systematic Trend (SYS)**—A systematic variable condition occurs (a number of subgroups systematically alternate on either side of the centerline).
- **High spec limit violation (HLV)**—Prompt for selected label(s) whenever an upper spec limit violation is detected for the characteristic. Note that the characteristic must have specification limits defined.
- **Low spec limit violation (LLV)**—Prompt for selected label(s) whenever a lower spec limit violation is detected for the characteristic. Note that the characteristic must have specification limits defined.

Note that the abbreviation for the selected alarm condition appears in the cell for the selected characteristic label alarm (e.g., HL, LL). Conditions selected for a non-defined characteristic label are not saved to the database.

Saving Setups

Setups created using the TranSend Utility are stored as files named the same as the part setup name with the **.DMS** file-extension. These files may then be transferred to the ASI DataMyte data collector using the #91714 cable.

Once all the elements of your part setup are in place, you are ready to save the current setup.

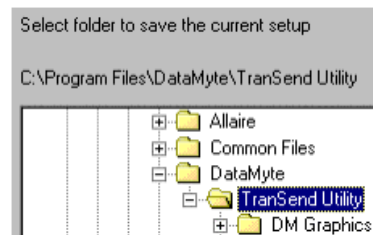
Steps:

1. Click on the **<Save>** button (or press ALT+A).

If the setup has never been saved before, you will see a window prompting you for a folder location:⁵

—Note—

The default folder location is specified in the TranSend Settings.



—Note—

You will also be prompted to save your setup if you elect to immediately transfer your setup using the “Send” button in the Configure Setup screen.

2. Navigate to the desired folder location by clicking on “+” sign next to the folders in the list.
3. Click the **OK** button.

If a setup with the same name already exists in the folder, you will see the following message:



You must either rename the current setup or else save it to a different folder location.

⁵ Subsequent save operations will not display this window *unless* the Part Name field has been changed. If not, changes are saved to the existing file. In either case, you are returned to the TranSend main window.

SECTION

4

Default Settings



TranSend Default Settings

The TranSend **Settings** button is used to configure program defaults for serial communications (i.e., communication parameters for connecting TranSend to a data collector), specify default values for the setups you will create, and select a data backup location.

Steps:

1. On the TranSend main screen, click the **Settings** button.

Communications Settings

You must configure TranSend to communicate with the data collector in order to transfer and upload setups (and to receive collected data). Setting up communications involves three steps:

- Configuring TranSend's COM port settings.
- Connecting the #91714 serial cable.
- Configuring the data collector's communication parameters.

Note: More information about transferring data to and from a data collector is provided in Section 5, *“Transferring Setups and Data.”*

TranSend Port Settings

The Settings Window displays the COM port and Baud Rate (on your PC) used to perform communications with a data collector.



The image shows a screenshot of the TranSend Settings Window. It features two dropdown menus. The first dropdown menu is labeled 'COM Port' and has 'COM1' selected. The second dropdown menu is labeled 'Baud Rate' and has '115200' selected.

Steps:

2. Select the **COM port**⁶ to use from the drop-down list.
3. Select the **Baud Rate**⁷ from the Baud Rate select list. The Baud Rate must **match** the baud rate of the data collector you are using (see section 5, *“Transferring Setups and Data,”* for more information).

⁶ See your computer's User's Guide for more information.

⁷ TranSend supports serial communications up to 115,200 BPS. COM 1 through COM 256 is supported (if available).

Default Setup Field Values

The Settings window allows you to specify default values for the various fields in the Setup Configuration window (see Section 3, “*Creating Part Setups*,” for more information about the various fields). You can elect to show or hide the various fields as well as to specify default values. These new settings will appear whenever you begin creating a new setup.

Show	Field Name	Default Value
<input checked="" type="checkbox"/>	SG size	5
<input checked="" type="checkbox"/>	Resolution	0.0000500
<input checked="" type="checkbox"/>	Source	K
<input checked="" type="checkbox"/>	Reference #	
<input checked="" type="checkbox"/>	AutoScan	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Boundary	<input type="checkbox"/>
<input type="checkbox"/>	Alarms	<input type="checkbox"/>
<input type="checkbox"/>	AutoGraph	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Nominal	
<input checked="" type="checkbox"/>	Eng. Limit High/Plus Tolerance	
<input checked="" type="checkbox"/>	Eng. Limit Low/Minus Tolerance	
<input checked="" type="checkbox"/>	Caution %	
<input checked="" type="checkbox"/>	High Reasonable	
<input checked="" type="checkbox"/>	Low Reasonable	
<input type="checkbox"/>	XUCL	
<input type="checkbox"/>	XLCL	
<input type="checkbox"/>	RUCL	
<input type="checkbox"/>	SUCL	
<input checked="" type="checkbox"/>	INSTRUC 1	
<input checked="" type="checkbox"/>	Drawing Ref	INSTRUC 1 Drawing Ref Engineer Call 4 Help INSTRUC 5
<input checked="" type="checkbox"/>	Engineer	
<input checked="" type="checkbox"/>	Call 4 Help	
<input checked="" type="checkbox"/>	INSTRUC 5	
<input checked="" type="checkbox"/>	Graphic File	

Show Field → (points to 'Show' column)

Do not Show Field → (points to 'Show' column)

Editable Field → (points to 'Field Name' column)

Default Value → (points to 'Default Value' column)

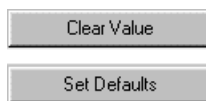
Note: Description name defaults may be changed to suit your needs.

Setting Setup Configuration Defaults

Steps:

1. Click on the desired **Default Value** cell to modify.
2. Type the value in the cell (in the case of collect options AutoScan, Boundary, Alarms, and Autograph, place a checkmark to activate the option as a default).

Note: For selected fields, the **Clear Value** button is used to erase the current value, and the **Set Defaults** is used to restore all fields to the factory default settings.

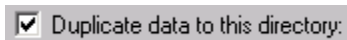


Duplicate Data Location

You can specify a backup location for data you receive from data collectors by performing the following (more information about transferring from a data collector is provided in Section 5, “*Transferring Setups and Data*”).

Steps:

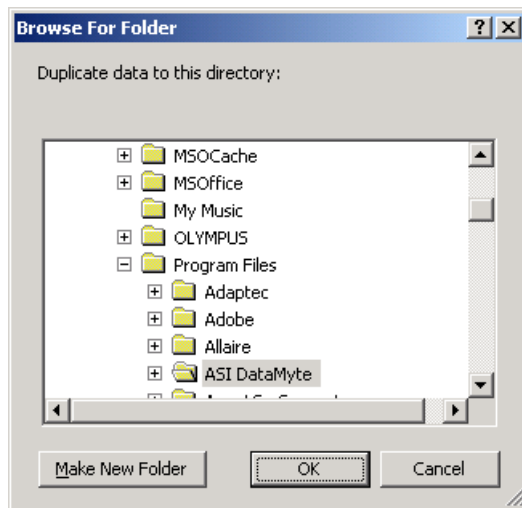
1. Place a checkmark in the “**Duplicate data to this directory**” checkbox:



2. Click on the (...) button to select the folder location for the backups (the last Browse selection is remembered).



3. Select the folder from the window:



Note: Choose a different location than the TranSend Utility folder, since this is the default location where data is stored.

4. Click **OK**.

The location for the data backup is shown in the window. This location will now be the default for all data uploads, unless otherwise changed.

File Auto Launch

With the “**Open this file after receive data**” checkbox enabled, TranSend will launch the selected file (or program) upon successful completion of the Receive Data process (more information about transferring from a data collector is provided in Section 5, “*Transferring Setups and Data*”).

Steps:

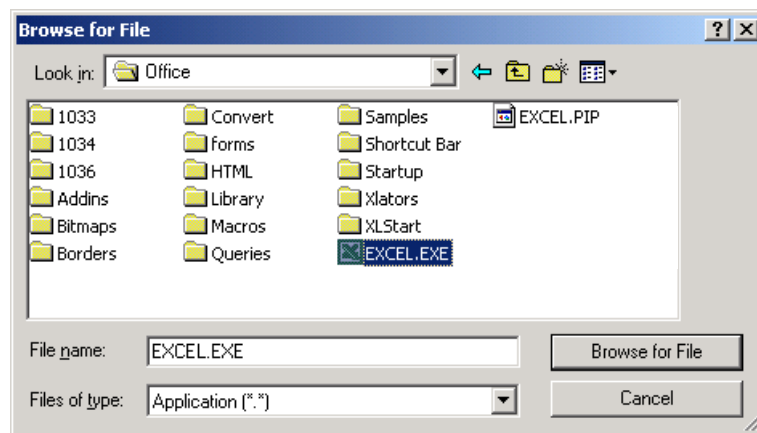
1. Place a checkmark in the “**Open this file after receive data**” checkbox:



2. Click on the (...) button to select the folder location for the file (the last Browse selection is remembered).



3. Select the folder and application from the “Browse for File” window:



4. Click the **Browse for File** button.

Note: The path and filename of the application is shown in the window. This application will now execute upon successful data transfers, unless otherwise changed.

Receive Data Location

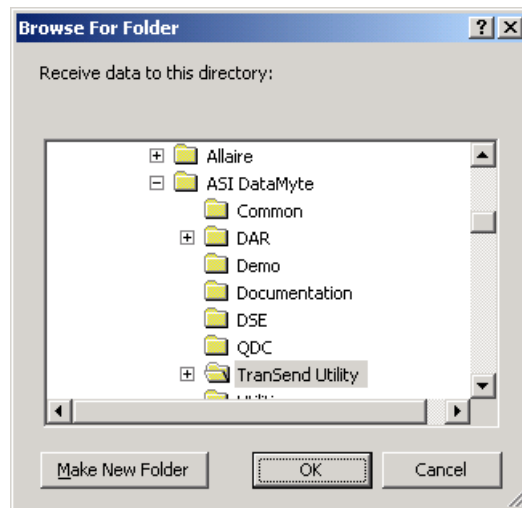
You can specify a default location for data you receive from data collectors by performing the following.

Steps:

1. Click on the (...) button to the right of the “**Receive data to this directory**” field to select the folder location for the data (the last Browse selection is remembered).



2. Select the folder from the window:



Note: Choose a different location than the TranSend Utility folder, since this is the default location where data is stored.

3. Click **OK**.

The location for the data is shown in the window. This location will now be the default for all data uploads, unless otherwise changed.

Save Setups Location

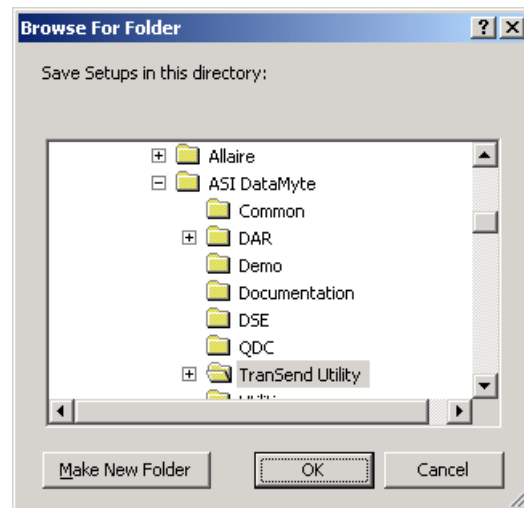
You can specify a default location for Setups you create using ASI DataMyte TranSend by performing the following.

Steps:

1. Click on the (...) button to the right of the “**Save Setups in this directory**” field to select the folder location for the setups (the last Browse selection is remembered).



2. Select the folder from the window:



Note: Choose a different location than the TranSend Utility folder, since this is the default location where setups are stored.

3. Click **OK**.

The location for the setups is shown in the window. This location will now be the default for all new setups, unless otherwise changed.

TranSend Express Icon

You may create a “TranSend Express” desktop icon by performing the following.

Step:

1. Click the “**Create Express Data Upload Icon**” button:



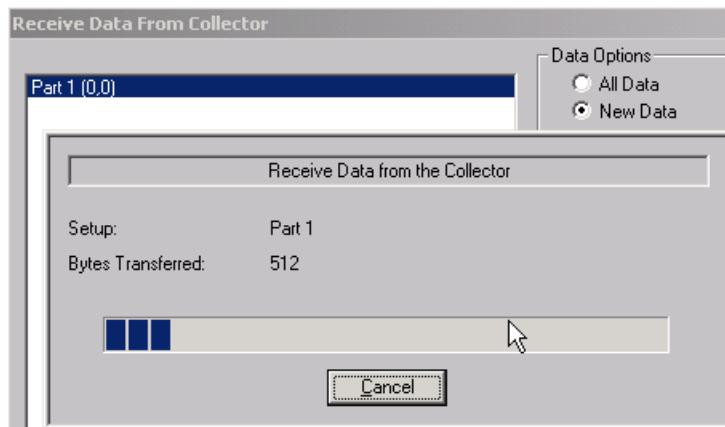
TranSend will display the following message:



And an icon will be placed on your Windows desktop:



TranSend Express is a utility that will automatically initiate a data upload by opening the Receive Data window and directly receiving all setup data.



Note: The options in the Receive Data window become the default for the TranSend Express applet, though Express will automatically transfer all new setup data

Note: More information about transferring from a data collector is provided in Section 5, “*Transferring Setups and Data.*”

SECTION

5

Transferring Setups and Data



Introduction

You must configure TranSend to communicate with the data collector in order to transfer and upload setups and to receive collected data. Setting up communications involves three steps:

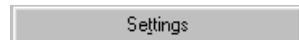
- Configuring the TranSend Utility COM port settings.
- Connecting the #91714 serial connection cable.
- Configuring the data collector's communication parameters.

Configuring TranSend Port Settings

The TranSend **Settings** button is used to configure communication parameters for connecting TranSend to an ASI DataMyte data collector.

Steps:

1. On the TranSend main screen, click the **Settings** button.



2. Select the **COM port**⁸ to use from the drop-down list.



3. Select the **Baud Rate**⁹ from the Baud Rate select list. The Baud Rate must **match** the baud rate of the data collector you are using.
4. Click **OK**.

⁸ See your computer's *User's Guide* for more information about available COM (serial) ports.

⁹ The TranSend Utility supports serial communications up to 115,200 BPS.

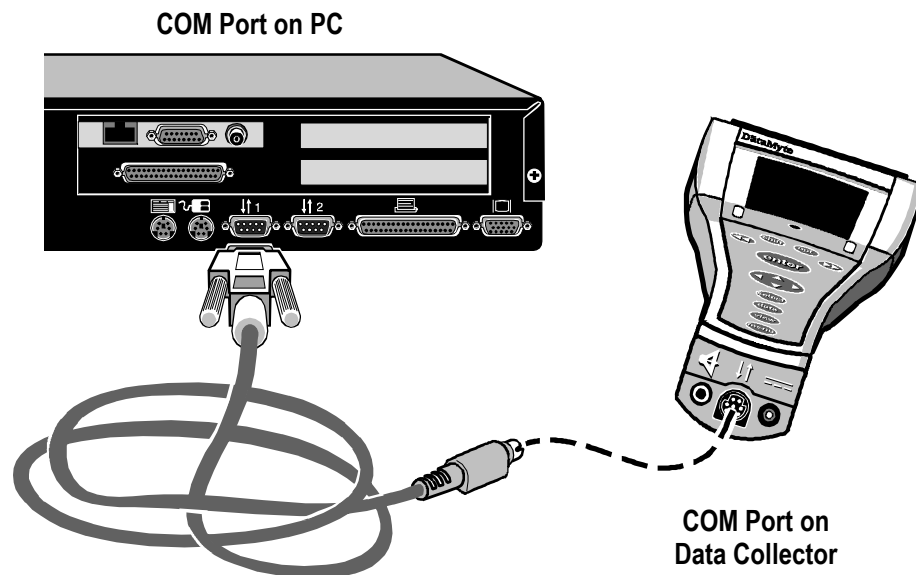


Connect the TranSend Serial Cable

The TranSend Utility uses a direct-connect cable to establish a communications link with an ASI DataMyte data collection device.

Step:

1. Attach one end of the #91714 cable to the designated serial port on your PC and the other end to the COM port (designated by the \updownarrow symbol) on the data collector.



Note: For additional assistance locating the COM port on your data collector, see your data collector's *User Guide*.

Important Data Collector Caution

CAUTION



Do **NOT** use the #94399 cable except with Microsoft® ActiveSync™ software or damage to your computer may result (i.e., use only the ASI DataMyte #91714 cable).

☑ Configure Data Collector Communications

You must **match the baud rate** of the data collector with that of the PC running the TranSend Utility.

501, 953, and 3053 Settings

Steps:

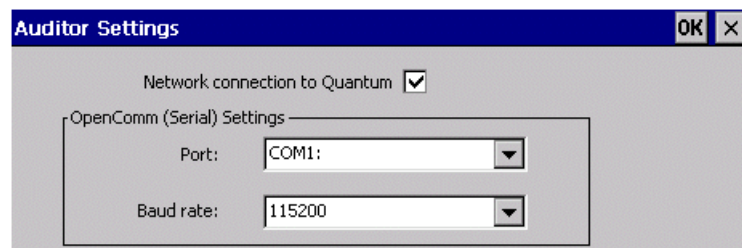
1. At the data collector, press the <Menu> key and highlight “Preferences”; then press <Enter>.
2. At the Preferences Menu, highlight “Comm.”
3. Highlight “Serial Baud Rate” and press <Enter>.
4. From the list of baud rates, select the same rate you selected for TranSend and press <Enter>.

DM4000 / Auditor Settings

Auditor Settings are used to configure the Auditor for host communications. You can configure these settings by performing the following.

Steps:

1. Start Auditor software on the DM4000.
2. Double tap the **Auditor Settings** icon to open the Auditor Settings window (found in the Auditor’s Control Panel):



Auditor Settings Window

3. Set the Port to COM1 and the Baud rate to match the rate selected for TranSend.
4. Tap **OK**.

Transferring Part Setups (to a collector)

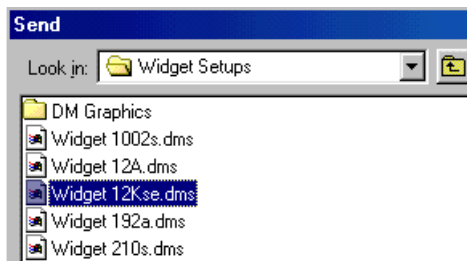
Once you have properly configured TranSend and your data collector to communicate together and connected the cable, you are ready to perform file transfer operations.

Steps:

1. On the TranSend main screen, click the **Send** button.
2. In the Send window, navigate to the folder where you stored the part setup (.DMS extension) and select it from the list.

—Note—

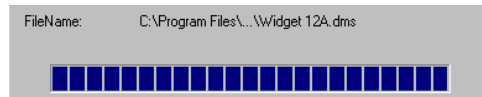
The default location for Setups is specified in the TranSend Settings window.



*Hold down the **CTRL** key and click to select multiple setups from the list.*

*Hold down the **SHIFT** key and click to select a range of setups from the list.*

3. Click the **Send** button. A window appears showing the progress of the file transfer:

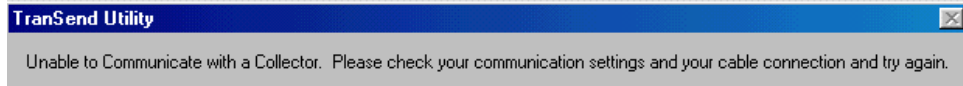


When the transfer completes, the following message is displayed:



4. Click **OK**.
5. If you are finished, disconnect the cable from the data collector and begin collecting data (for information about using setups at the data collector, see your data collector *User's Guide*).

Transfer and Error Messages

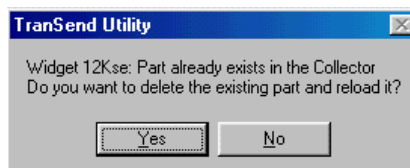


If you cannot transfer a setup at all (or receive an error message stating that you cannot communicate with the data collector), please review your communications settings for both the data collector and the TranSend host computer. Make sure that the baud rates match and that the correct COM port is selected on both sides of the communication cable. Also check the integrity of the serial cable: is it securely attached to both the data collector and the host COM port?

Here is a list of transfer messages:

Code	Description
-1	Data Collector Error. If error persists, contact Support Services.
-3	COM port already in use. Quit the other application using port and retry.
-24	COM port already in use. Quit the other application using port and retry.
-33	Data Collector Part List is full. Delete unneeded setups on the data collector.
-37	The setup name contains illegal characters. Edit the setup's name and retry.
-43	The Part Setup data was not found during the transfer.
-45	The Part Setup is currently the active setup at the Data Collector. Unload the setup at the data collector and retry.
-48	The Part Setup already exists at the target Data Collector. Either delete the setup at the data collector or else rename the setup and re-send.
-100	Bad command line error.
-101	The Transfer has been aborted by the user.
-102	Communications timeout error. Check cabling and baud rate and retry.
-110	No parts found. Check that Setup exists.
-111	No data found. Check that Setup has data.
-200 to -209	General Communications errors. Check cabling and baud rate and retry.
-300	The setup file has illegal entries. Edit the setup file and retry the transfer.
-600	Out of Memory. Close one or more applications and retry.
-602	Cannot open file. Check location or file integrity.
-601 to -623	General communications errors. Check cabling, port, and baud rate.

Other transfer messages are self-explanatory. For example, the following message is displayed if you attempt to transfer a part setup to a data collector that already has an identically named part setup in its memory:



Transferring Collected Data

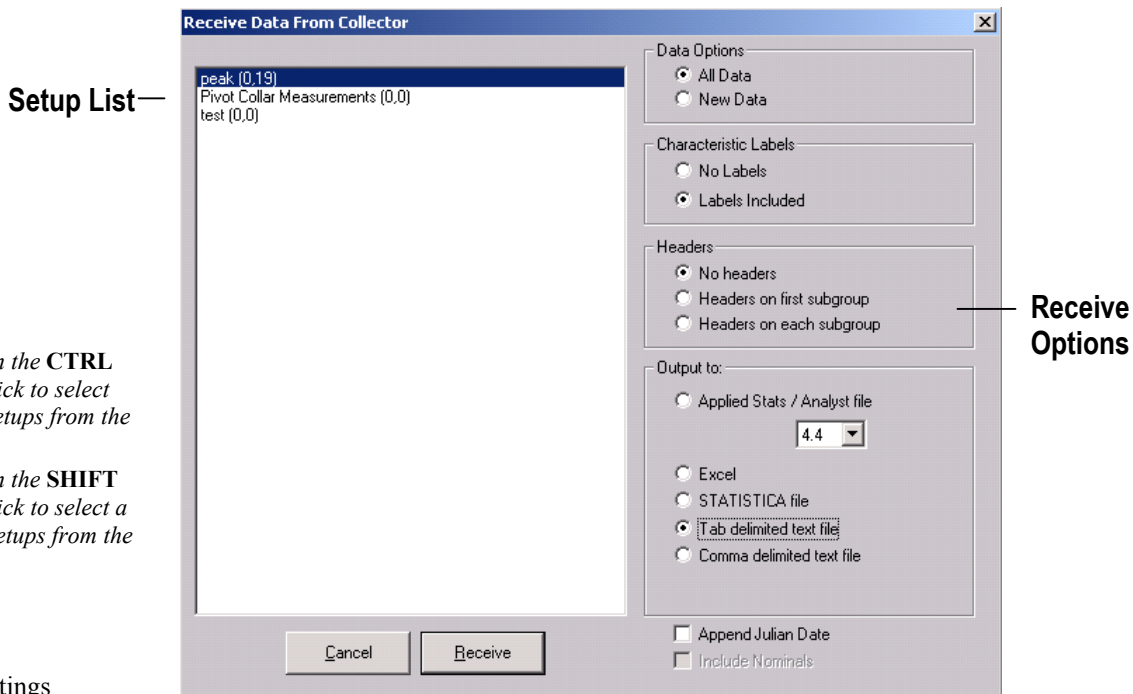
After data is collected, it may be “harvested” or transferred back to TranSend for analysis using ASI Applied Stats, ASI Analyst, Microsoft Excel (or another data analysis package, such as StatSoft Statistica or ASI DataMyte Importer).

Auditor Note: You must first **Accept Data** before it can be made available for transfer using TranSend (see the Auditor online help for more information).

Steps:

1. Configure the direct-connect communication link between the data collector and TranSend (as explained at the start of this section).
2. On the TranSend main screen, click the **Receive Data** button.

The Receive data dialog window appears:



Hold down the **CTRL** key and click to select multiple setups from the list.

Hold down the **SHIFT** key and click to select a range of setups from the list.

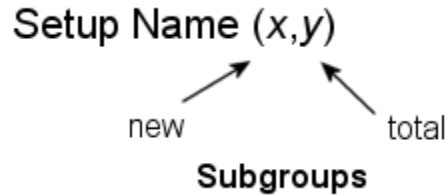
Note:

These settings become the default for **TranSend Express** -- though Express will transfer **all setup data** when it is executed.

The **setup list window** displays an alphabetized list of setups detected in the data collector. Next to each setup name appears a pair of numbers in parentheses. The first number of the pair indicates the number of **new subgroups** (i.e., as-of-yet transferred subgroups) and the second number indicates the **total subgroups**. For example, if a setup shows (5,8) next to its name, there are 5 new subgroups of data from 8 total subgroups stored at the data collector (by inference, we would then know that 3 subgroups of data had been previously transferred to TranSend).

Receive Data Window Elements

- **Setup List Window**—An alphabetized list of setups detected in the data collector. Next to each setup name appears a pair of numbers in parentheses. The first number of the pair indicates the number of **new subgroups** (i.e., as-of-yet transferred subgroups) and the second number indicates the **total subgroups**:



- **Data Options**—Select whether to send: 1) *All Data* (including any data previously transferred from the data collector) or 2) *New Data* only (i.e., data that has not already been transferred).

Data Options

All Data

New Data

- **Characteristic Labels**—Select whether to include characteristic label information (*Labels Included*) or not (*No Labels*).

Characteristic Labels

No Labels

Labels Included

- **Header**—Select whether to include header information (i.e., subgroup and piece label names, characteristic names, date, time, and data collector ID), and, if so, whether to include them with each subgroup or just with the first subgroup of data.

Header

No headers

Headers on first subgroup

Headers on each subgroup

Subgroup and Piece Labels are always included if Header is selected...

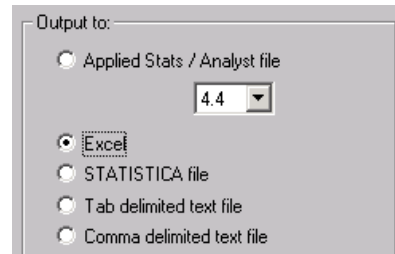
Note: Header exporting is not supported with Statistica.

Receive Data Output File Type

- **Output to**—Select the output file type: 1) Applied Stats/Analyst (version 4.4, 6.0, 6.3) (.app extension), 2) Microsoft Excel, 3) StatSoft STATISTICA (.sta extension), 4) Tab Delimited, or 5) Comma delimited (both Tab and Comma delimited types are text types used for importing the data into a database or other application).

—Note—

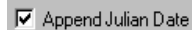
The Excel option will be disabled if Microsoft Excel is not installed on the host computer.



—Note—

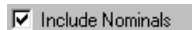
If using the Excel option, note that you must start Microsoft Excel on your computer before the Receive Data process is started.

- **Append Julian Date**—Select this option to append the data filename with the Julian date to avoid overwriting previous data received.



Note: Appending the date is not supported with Microsoft Excel.

- **Include Nominals**—Select this option to include Engineering specification limits (as a separate header) in the data received.



Note: If you do not send headers with the data file, this option is disabled.

Performing the Transfer

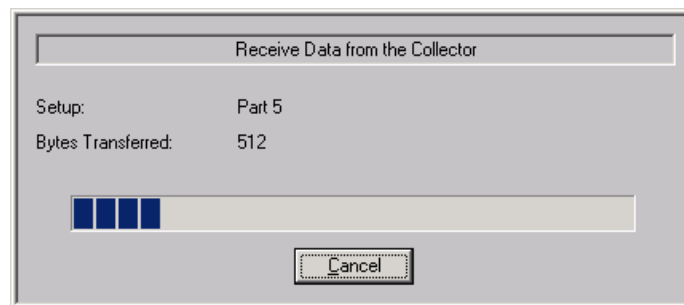
Steps:

1. **Select Setups:** Click on the name(s) of the part setup(s) you want to transfer data from in the Setup List window.

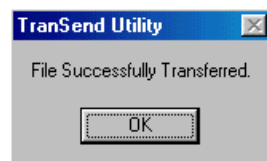
Note: Hold down the CTRL key and click to select multiple setups from the list; hold down the SHIFT key and click to select a range of setups from the list.

2. **Set Receive Options:** Specify whether you want to send all data or new data, whether to include header information, and whether to include characteristic labels with the transferred data by clicking on the relevant radio buttons.
3. **Perform the transfer:** Click on the **Receive** Button to begin transferring the data to TranSend.

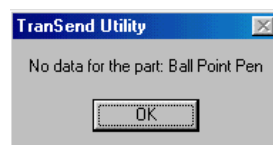
A window appears showing the progress of the file transfer:



When the transfer completes, a report message is displayed:



Note that if there is no data associated with a given setup, the following message appears:



If the output file type selected is Microsoft Excel, the TranSend Utility automatically puts the transferred data into a separate worksheet for each part setup with data transferred (note: Excel must be running or an error message will appear):

Row of Subgroup Headers	1	A	B	C	D	E	F	G
	2	Date	Time	Collector ID	Operator	Outside Diam	Inside Diam	Wall Thickness
Subgroup Data	3	12-Jun-97	16:02:23	39255	George W.	0.3	0.2205	0.03975
	4					0.3	0.2205	0.03975
	5					0.3015	0.22	0.04075
	6					0.3015	0.2195	0.041
Subgroup Data	7	12-Jun-97	17:50:45	39255	Mary Lue F	0.3115	0.2085	0.0515
	8					0.3115	0.209	0.05125
	9					0.3115	0.209	0.05125
	10					0.3115	0.209	0.05125
Subgroup Data	11					0.3105	0.209	0.05075
	12	12-Jun-97	17:51:25	39255	Mary Lue F	0.3275	0.214	0.05675
	13					0.3045	0.214	0.04525
	14					0.3045	0.2135	0.0455
And so on ↓	15					0.3045	0.214	0.04525
	16					0.318	0.214	0.052
	17	13-Jun-97	1:19:50	39255	Mary Lue F	0.314	0.2115	0.05125
	18					0.314	0.2115	0.05125
	19					0.3135	0.2115	0.051
	20					0.3085	0.2185	0.045
	21					0.3085	0.2185	0.045
	22	13-Jun-97	1:20:57	39255	Ouille B	0.3125	0.222	0.04525

Part Setup Name

Note: You can save all of the data from the various setups in an Excel “Book.” See your Excel *User’s Guide* for more information.

Importing Data Files

If the output file type selected is an ASI Applied Stats or Analyst file, the file will be stored using a .APP file extension; Tab delimited, the file will be stored using a .TXT file extension; Comma delimited files are stored using the .CSV file extension; StatSoft STATISTICA files are stored using a .STA file extension, and ASI DataMyte Importer files are stored using a .GAM extension.

Steps:

1. Start the desired application.
2. Import the TranSend data file (see your application’s documentation for details regarding import procedures).

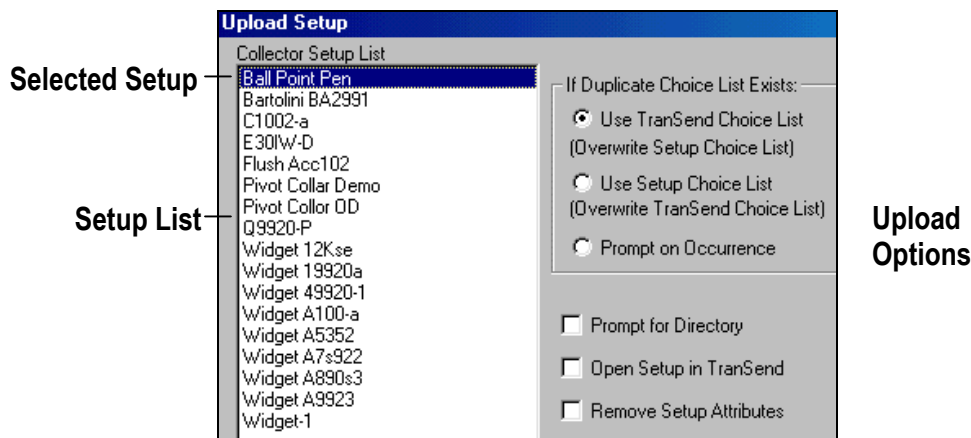
Uploading Setups (to TranSend)

Normally you will use TranSend to create setups and transfer them to a data collector. However, you can also upload setup(s) from a data collector into TranSend, if desired.

Steps:

1. Configure the direct-connect communication link between the data collector and TranSend (as explained at the start of this section).
2. On the TranSend main screen, click the **Upload** button.

The Upload Setup dialog window appears:



3. **Select Setups:** Click on the name(s) of the part setup(s) you want to transfer to TranSend in the Setup List window.
4. **Set Choice List Options:** A TranSend Choice List (i.e., Label List) may be overwritten by importing it from a data collector (called a “Setup Choice List”). To update the Choice List(s) in TranSend to the list(s) on the collector, select “Use Setup Choice List” (if you select “Prompt on Occurrence,” you will be given the option to keep or overwrite the list stored in TranSend).
5. **Set Receive Options:** You can choose to have TranSend prompt you for a file location (“Prompt for Directory”), immediately open the file in TranSend upon completion of the upload (“Open Setup in TranSend”), and/or remove any attribute characteristics from the setup (“Remove Setup Attributes”), by clicking on the appropriate option.
6. **Perform the Upload:** Click **OK** to begin the transfer (if an error message appears, see page 56).

—*Note*—

The default location is specified using the TranSend Settings window.

Transferring Gage Lists

What is a Gage List?

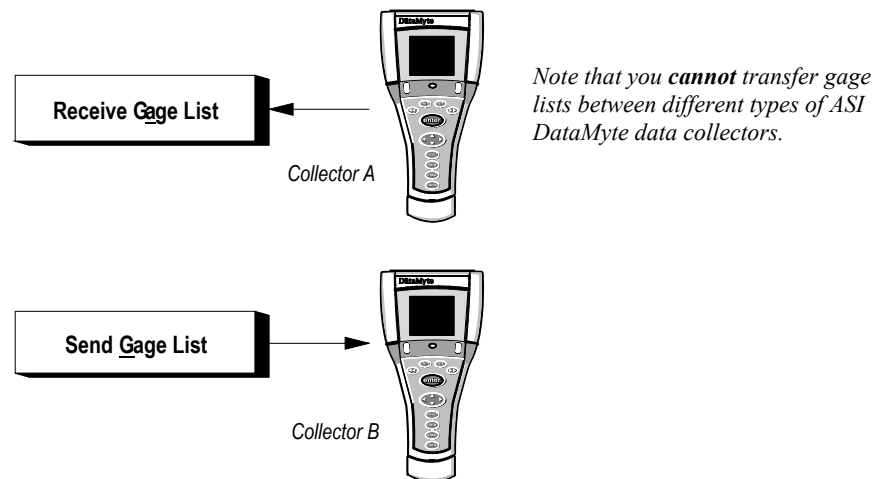
A Gage List is a configuration file used at the data collector to reference what gages are attached to it and what the various gage parameters are. For example, a data collector might be configured to use a barcode wand on one port, a torque wrench on another, a micrometer on another, and so on (gage lists are initially created using the onboard gage configuration editor on the data collector).

The TranSend Utility can be used to transfer the Gage List from one ASI DataMyte data collector (*of the same model*) to another—giving you a quick way to copy the same gage configuration information to a number of data collectors. Cloning gage configurations saves you time because you won't need to use the Keypad to manually configure several data collectors that use the same gages.

The basic procedures for cloning gage configuration can be shown in the following illustration:

—*Note*—

If you receive a gage list from a 501 data collector, you cannot send that same gage list to a 3000 data collector.



Auditor Note: Gage Lists are not supported by the ASI DataMyte DM4000 running Auditor software (use the Tool Suite Editor to create and transfer aliases, instead).

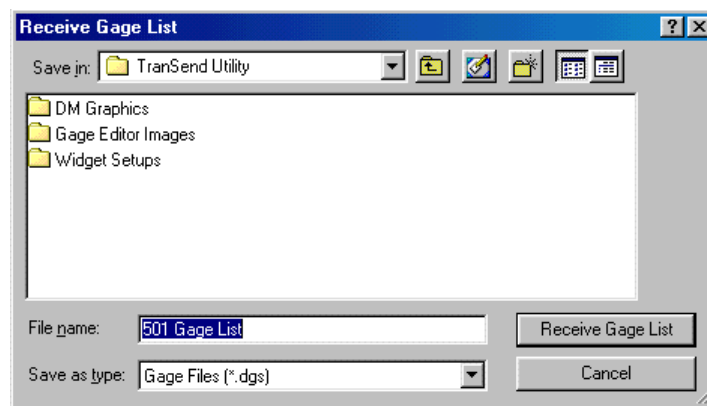
Receiving a Gage List

In order to clone a gage list that is installed on one data collector, you need to first receive it and then send it to another data collector.

Steps:

1. Configure the direct-connect communication link between the data collector with the appropriate gage configuration and TranSend.
2. On the main screen, click on the **Receive Gage List** button.

The Receive Gage List window appears:



3. Using the window controls, select the directory location to store the gage list to import.
4. Type a name for the gage list in the **File name** edit box (note that the file will automatically be saved using the **.DGS** file extension. Do not rename the extension or you will be unable to transfer it using TranSend).
5. Click on the **Receive Gage List** button.

A window appears showing the progress of the file transfer.

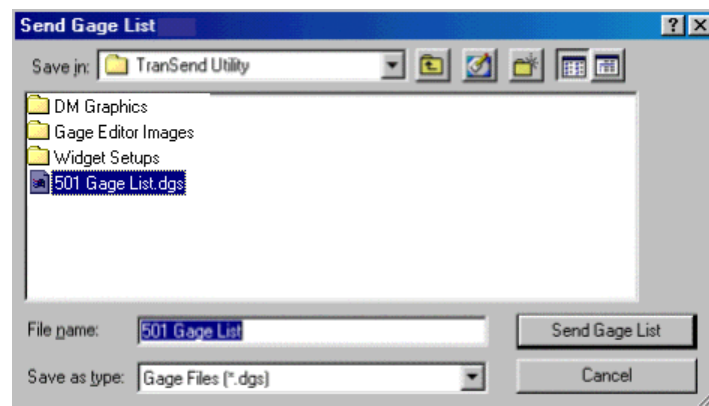
Sending a Gage List

Once you have the desired source gage list, may transfer it to another data collector.

Steps:

1. Configure the direct-connect communication link between the data target data collector and TranSend.
2. On the main screen, click on the **Send Gage List** button.

The Send Gage List window appears:



3. Using the window controls, select the directory location and filename of the gage list to export.
4. Click on the **Send Gage List** button.

When the transfer is complete, the following message box appears:



Deleting a Gage List

Deleting a gage list deletes only the file stored on your computer; not the gage list at the data collector. To delete no longer needed gage lists, perform the following steps:

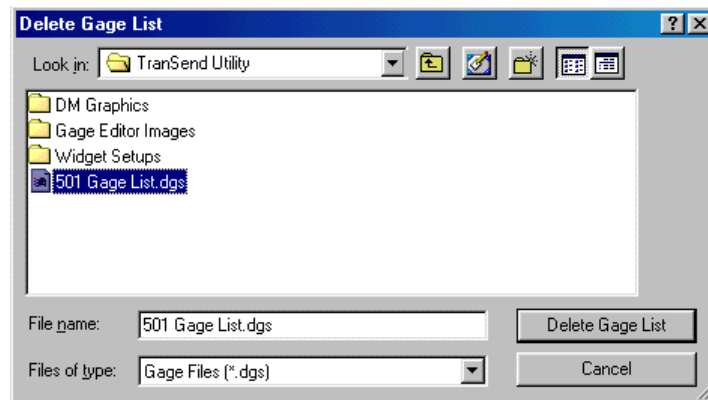
Steps:

1. In the TranSend main window, click on the **Delete Gage List** button.
2. In the Delete Gage List dialog box, select the gage list to delete.

—Note—

*Hold down the **CTRL** key and click to select multiple setups from the list.*

*Hold down the **SHIFT** key and click to select a range of setups from the list.*



3. Using the window controls, select the directory location and filename of the gage list to export.
4. Click on the **Delete Gage List** button.

Receiving Torque Curves

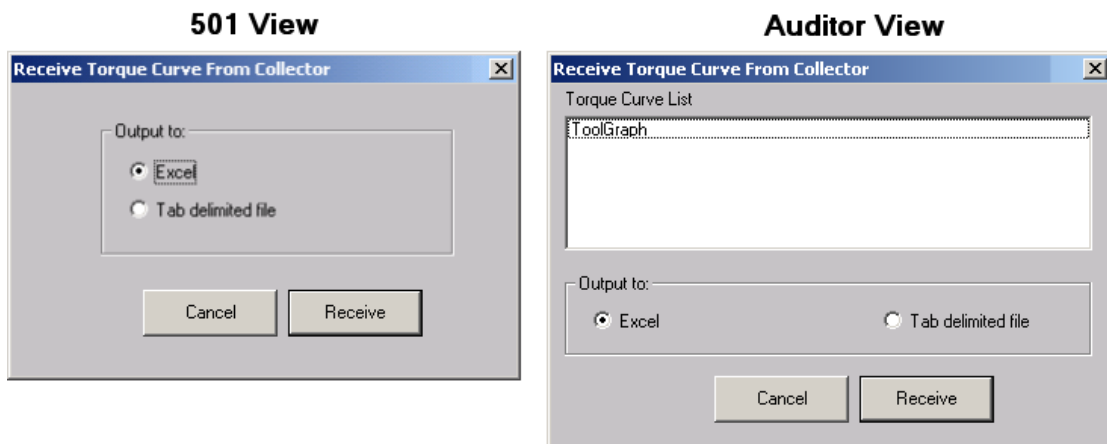
When the **<Receive Torque Curve>** button is selected, torque curve data is directly imported from a supported data collector and displayed in Microsoft Excel as a graph (or in a Tab Delimited file).

Note: Torque Curve data is available to operators of ASI DataMyte data collectors that support torque data collection (501 data collector 3.0 (or higher) or ASI DataMyte Auditor 3.0.0 (or higher). See your data collector User Guide for information about how to create and save torque curves.

Steps:

1. Collect torque curve data (see your data collector user guide for information).
2. Configure data collector / TranSend communications (as explained earlier in this section).
3. In the TranSend main window, click on the **<Receive Torque Curve>** button.

The following dialog(s) appears:

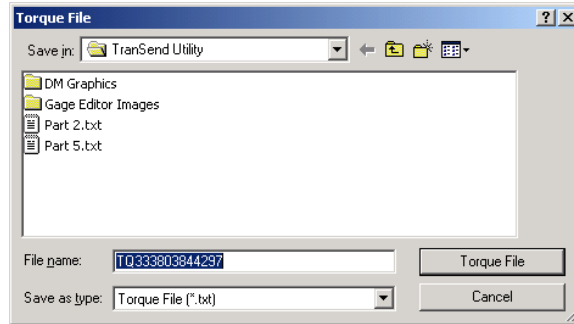


Note: If you do not have Microsoft Excel installed, the Excel radio button selection will be deactivated.

4. Select the desired output format (**Excel** or **Tab delimited file**) by clicking the appropriate selection.
5. Click the **<Receive>** button.

Tab delimited file

If you select **Tab delimited file**, you will be prompted for a filename in the Torque File save window:



Steps:

1. Use the window controls to navigate to the desired location to save the torque curve file.

Note: The filename is derived from the system date/time. If you want to use another name, type it in the **File name** edit box.

2. Click the <Torque File> button.

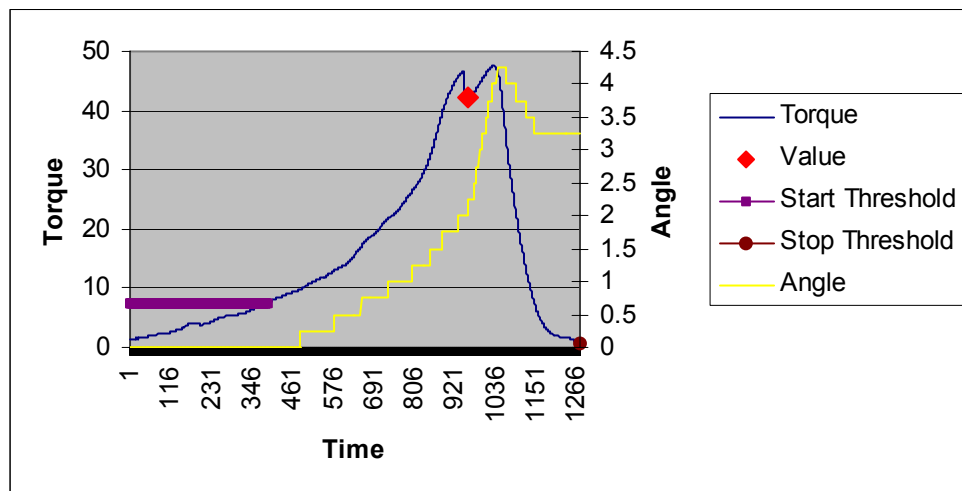
Torque and Angle versus Time

Microsoft Excel file

If you select **Excel file**, the data will be immediately transferred to Microsoft Excel and a graph will be automatically generated.

—Note—

The chart shows curves for Torque and Angle over time...



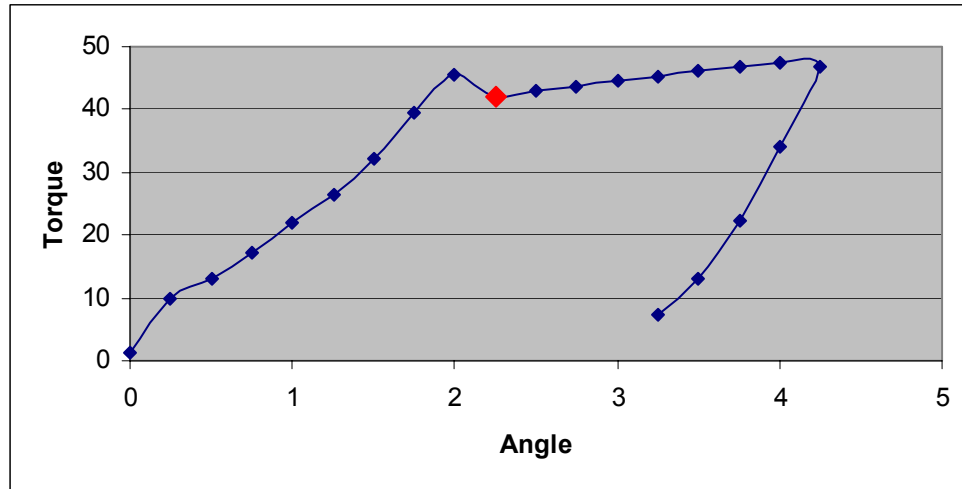
Torque versus Angle

In addition to the standard torque curve that displays the measure of torque over time, if your data includes any angle data, an additional curve will be generated:

—Note—

The chart shows the curve for a Torque versus Angle.

Note that if your data includes any angle measurements, an additional curve will be displayed.

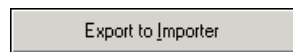


Export to Importer

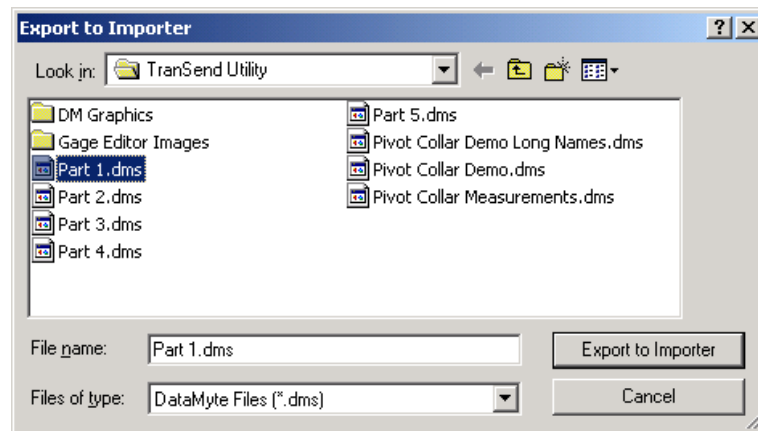
You may export TranSend setups to an ASCII file that may be incorporated into a Quantum database by means of the ASI DataMyte Importer™ utility. Note that in order to perform this procedure you must have the ASI DataMyte Importer installed on your computer.

Steps:

1. Create the desired setups to export using TranSend software.
2. In the TranSend main window, click on the <Export to Importer> button:



The **Export to Importer** dialog appears:



—Note—

Hold down the **CTRL** key and click to select multiple setups from the list.

Hold down the **SHIFT** key and click to select a range of setups from the list.

3. Use the window controls to select to the desired setup to export and click the **Export to Importer** button.

If successful, the following message appears:



Note: The exported file is stored using the **.GAM** extension in the same location as the original file.

Export Restrictions

The following restrictions should be kept in mind when exporting setup data for use with ASI DataMyte Importer:

- **Labels**—Characteristic and / or Piece Labels are NOT exported (subgroup labels are exported).
- **Subgroup Label Lists**—Subgroup label lists are not exported to Importer.
- **Names**—Part and Characteristic Names must be no more than 32 characters in length. Characteristic Names must be unique within a setup. No names may contain the characters: !, @, #, \$, %, ^, &, *, and |.
- **Subgroup Size**—Subgroup Size cannot exceed 200 and must be the same size for all characteristics in the setup.
- **Engineering Limits**—Engineering Limits are always set to “Deviation,” not “Actual,” regardless of the original setup configuration.

Note: If any of the above conditions is detected, an error message is displayed and the export operation is terminated.

SECTION

6

Managing Setups



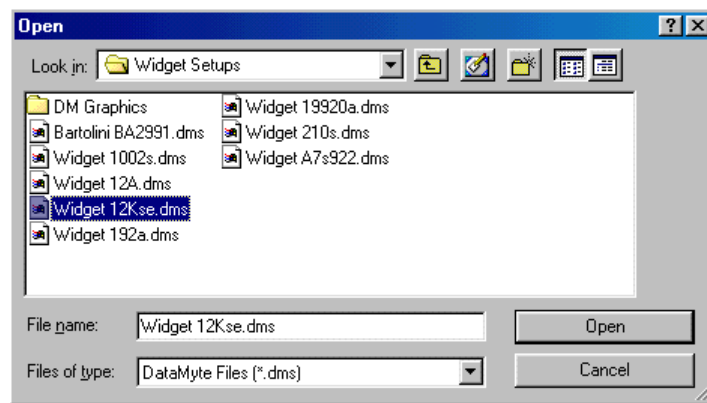
Editing Setups

Opening Setups

Setups created (or uploaded) using the TranSend Utility are stored as files using the **.DMS extension**. To edit a setup (i.e., add, delete, or change any setup element), perform the following.

Steps:

1. In the TranSend main window, click on the **Open** button.
2. In the Open dialog box, select the setup to edit:



—Note—

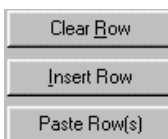
The default location is specified using the TranSend Settings window.

3. Click the **Open** button to load the setup into the Configure Setup window.

General Editing Keys and Buttons

While editing setups on the Configure Setup screen, the following key and key-combinations may be used:

Key(s)	Description
TAB	Moves one cell to the right
SHIFT+TAB	Moves one cell to the left
CTRL+C	Copies highlighted cell(s) or row(s)
CTRL+V	Pastes copied cell(s) or row(s)
CTRL+X	Deletes cell contents
ENTER	Move down one row (while editing)



You can also use the **Clear Row** button (to remove all entries on a row), the **Insert Row** button (to add a new empty row above the current row), and the **Paste Row(s)** button (to insert values from a row copied from Excel).

Copying and Pasting Rows

You can copy the contents of an entire row and paste it as a new row by performing the following.

Steps:

1. Click once on the characteristic number (or label number) in the list to highlight (i.e., select) the row to copy and press **Ctrl+C**:

Click →

	Name	Resolution	Source	Reference #	AutoScan
1	OD	0.0000500 K		1	<input type="checkbox"/>
2	ID 1	0.0000500 K		2	<input type="checkbox"/>

2. Click on the desired location for the row and press **Ctrl+V** to paste it as a new row:

	Name	Resolution	Source	Reference #	AutoScan
8	ID 1	0.0000500 K		2	<input type="checkbox"/>

3. Edit the various fields for the new row (note that the setup will not allow duplicate names for characteristics or labels, so minimally you will have to change their respective names).

Re-ordering Characteristics

Characteristics are referenced according to their order in a given setup (called “collect order”). For instance, the first characteristic is referenced as “C1,” the second as “C2,” and so on. You can reorder characteristic rows by using the **reordering buttons** that are activated whenever a row is selected:

Move Up → ▲

Move Down → ▼

	Name	Resolution	Source	Reference #	AutoScan
5	Weight	0.0100000 K			<input type="checkbox"/>
6					<input type="checkbox"/>
7					<input type="checkbox"/>
8	ID 1	0.0000500 K		2	<input type="checkbox"/>
9					<input type="checkbox"/>
10					<input type="checkbox"/>

Steps:

1. Click on the characteristic number to select the row to move.
2. Move the characteristic to the desired location by using the reordering buttons.

Re-ordering Characteristics Warning

If you are using formulas that reference characteristics, you must ensure that the formula will calculate correctly after you have changed the characteristic order in the setup.

DM4000 / Auditor users can use characteristic **reference numbers** to tag the characteristic with a permanent reference -- independent of characteristic ordering -- and thereby protect the formula from becoming invalidated after reordering.

Other ASI DataMyte data collector users (i.e., 501, 3053, 953, etc. users) must **manually** ensure that the changed order of characteristics will not affect the outcome of any characteristic formulas (e.g., if you had defined a source for a characteristic as (C4-C6/2), but later reordered the characteristics in your setup, you will need to edit the source for the characteristic accordingly).

Editing Choice Lists

A Choice List (also called a “Label List”) provides a list of up to 100 pre-defined label values (or entries) from which an operator can choose while collecting label data. Note that entries appear at the data collector in the order they appear in the list here.

Steps:

1. Open a setup.
2. On the right of the Configure Setup screen, click on the **Edit Lists** button.

The List Setup window appears:

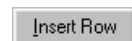
List Name		Entries	
1	Operators	1	Tom
2	Machinist	2	Bob
3		3	Karen
4		4	Mara

Stored Lists
List Entries

The **List Name** column shows any label lists already created and the **Entries** column shows the values for the selected List Name (the Choice List Type radio button filters the List Name column based on the label type).

3. Click on the name of the Label List to edit (to create a new list, type the name in the **List Name** column and the values in the **Entries** column).
4. In the **Entries** column, edit the values in the list (entries can be up to 24 characters long).

Note: The **Insert Row** button allows you to add an entry **above** the currently selected row.



5. Click **OK** when finished.

Note: The changed list will be available after resending the setup to the data collector.

Cloning Setups

You can clone a part setup by performing the following steps:

Steps:

1. Open the setup you wish to clone.
2. Change the **Part Name** field by typing over its contents:



3. Click on **Save** button.

Deleting Setups

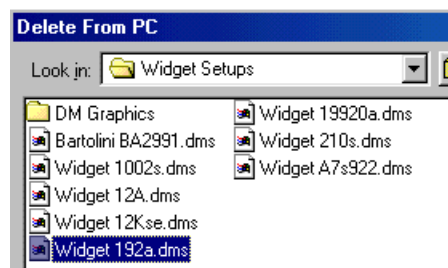
You can delete setups stored on the TranSend PC or on a connected data collector.

Deleting TranSend Setups

Note that when you upload a setup from a data collector to TranSend, the setup will be overwritten on the PC (i.e., there is no need to first delete the setup at the PC and then send the data collector version as a second step).

Steps:

1. In the TranSend main window, click on the **Delete From PC** button.
2. Select the TranSend setup to delete in the window:



—*Note*—

Hold down the **CTRL** key and click to select multiple setups from the list.

Hold down the **SHIFT** key and click to select a range of setups from the list.

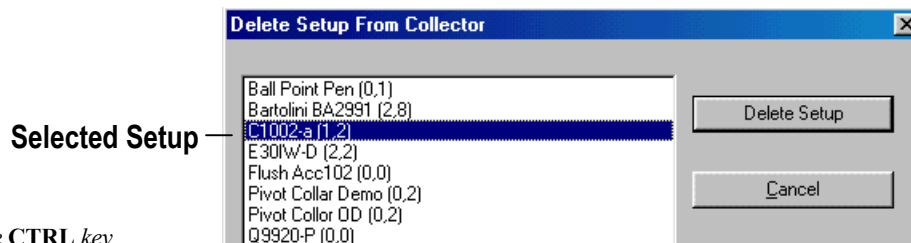
3. Click the **Delete from PC** button.
4. Confirm the deletion.

Deleting Collector Setups

Note that when you transfer a setup to a data collector that already has the setup, you will be asked if you want to overwrite the setup at the data collector (i.e., there is no need to first delete the setup at the data collector and then re-send it with a newer version as a second step).

Steps:

1. Configure the direct-connect communication link between the data **source** data collector and TranSend (see Section 5, if necessary).
2. Select the setup(s) to delete from the list:



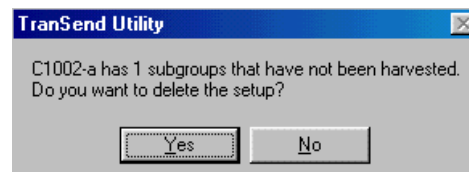
—Note—

Hold down the **CTRL** key and click to select multiple setups from the list.

Hold down the **SHIFT** key and click to select a range of setups from the list.

Note: This window shows an alphabetized list of setups detected in the data collector. Next to each setup name appears a pair of numbers in parentheses. The first number of the pair indicates the number of **new subgroups** (i.e., not as-of-yet transferred subgroups) and the second number indicates the **total subgroups** (in the example above, the C1002-a setup has one subgroup of data that has not been transferred to TranSend).

3. Click the **Delete Setup** button. Note that if any setups have subgroups that have not been transferred, a message like the following appears (for each setup with unharvested data):



Click **Yes** to proceed with the deletion; otherwise, click **No** and transfer the unharvested data before deleting the setup.

4. A status bar will indicate the progress of the deletion and a confirmation window will inform you that the setup(s) are deleted.

SECTION

7

Model 501 Firmware Update



Introduction

“Firmware” refers to the program code stored inside chips in ASI DataMyte Model 501 data collectors. “Flash” firmware refers to the ability of the chips to be updated “in a flash”—without physically replacing any components in the data collector—by using TranSend Software and a firmware “image” file. Firmware image files are available on the ASI DataMyte web site (<http://www.asidatamyte.com>).



Since ASI DataMyte offers many different flash update image files, you must know the name of the update file.

Firmware image filenames for a model 5xx data collector are of the form:

501 vx.x.x option

For example, 501v2.3.1 SPC Image or 501v2.3.1 Non-SPC Image.

Step 1: Obtain the Firmware

ASI DataMyte provides two ways to obtain the latest flash firmware files:

- **By Internet** Access the ASI DataMyte World Wide Web site at: <http://www.asidatamyte.com>. Click on the Downloads link, select ASI DataMyte 501 flash downloads, and download the appropriate file.
- **By Mail** Call 763-553-0455 Monday through Friday between 7:00 a.m. and 5:00 p.m. (Central Standard Time) and ask a Technical Support representative to send you the latest firmware update file.

Step 2: Update Procedures

In order to use the TranSend Utility to transfer your firmware update file to the 501 data collector, it must be *configured*. Configuring communications involves three steps:

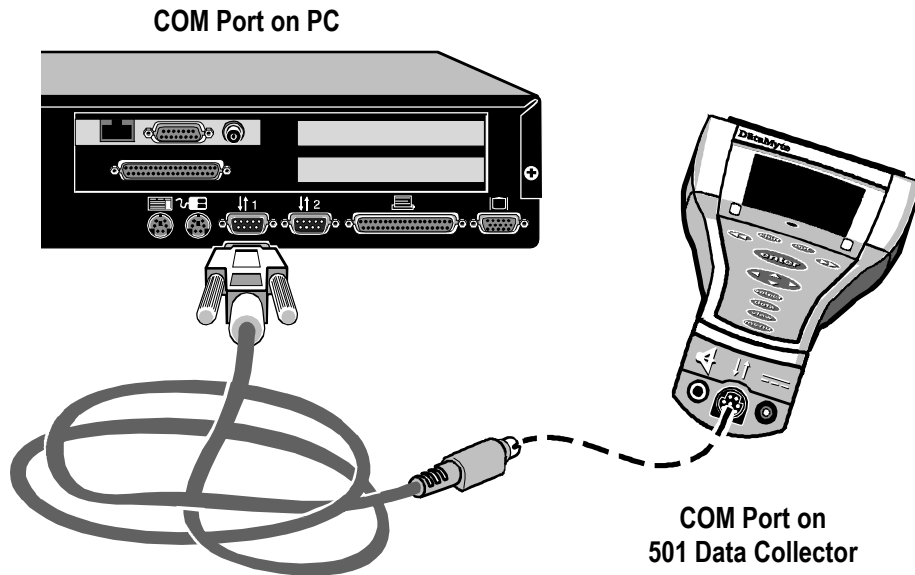
- ☑ Connecting the #91714 cable.
- ☑ Configuring the data collector’s flash loader program.
- ☑ Configuring and running TranSend’s Firmware Updater.

☑ Connect the TranSend Serial Cable

TranSend uses a direct-connect cable to establish a communications link with an ASI DataMyte data collection device.

Steps:

1. Attach one end of the #91714 cable to the designated serial port on your PC and the other end to the COM port (designated by the ↑↓ symbol) on the data collector.



Note: For additional assistance locating the COM port on your data collector, see your 501 data collector’s *User Guide*.

Configure the 501 Flash Loader

You must **match the baud rate** of the data collector with that of the PC running the TranSend Utility.

Steps:

1. At the data collector, press the <Menu> key, highlight “About”; then press <Enter>.
2. Press the <option> + <menu> key (or <symbol> then <menu> if using the Alphanumeric KeyPad) .

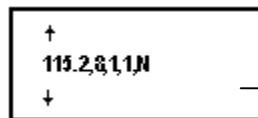
A screen similar to following will appear:



3. Highlight “Flash Loader” and press <enter>.



4. At the “Load/Unload flash program now?” prompt, highlight “Yes” and press <enter>.



Flash Loader Parameters

5. At the flash loader screen, use the ▼ or ▲ keys until the leftmost number matches your selected baud rate (i.e., 115.2 = 115,200; 57.6 = 57,600; 38.4 = 38,400, and so on).



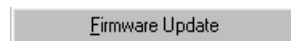
Configuring and Running the Firmware Updater

Once you have obtained your firmware image file, access code(s), and have put the data collector into “Flash Loader” mode, you are ready to send the image file to the data collector.

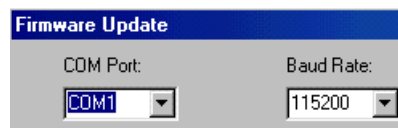
The **Firmware Update** button is used to configure and run the flash firmware update procedures.

Steps:

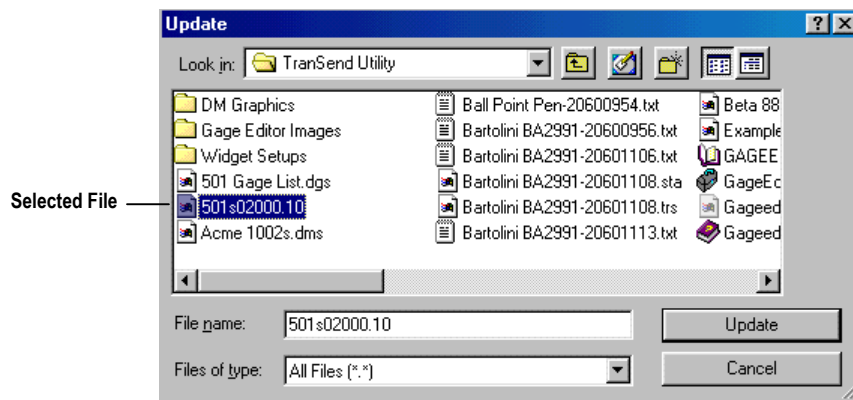
1. On the TranSend main screen, click the **Firmware Update** button.



2. Select the **COM port**¹⁰ to use from the drop-down list.



3. Select the **Baud Rate**¹¹ from the Baud Rate select list. The Baud Rate must **match** the baud rate of the 501 you are updating.

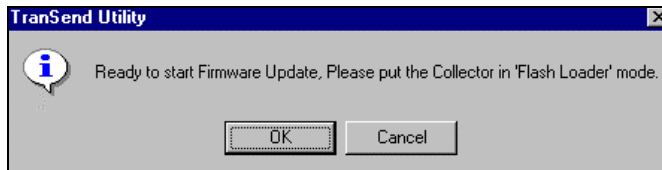


4. Select the name of the firmware image file you received from ASI DataMyte and click the **Update** button.

¹⁰ See your computer’s *User’s Guide* for more information about available COM (serial) ports.

¹¹ TranSend supports serial communications up to 115,200 BPS.

The following message appears:



5. Click **OK**. The screen will display a status bar indicating the progress of the update, and the LEDs on the 501 will alternately flash. When the update is finished, a confirmation message will appear and the 501 will reset to the main menu.

Update Error Messages

Most error messages involve a problem with communicating with the data collector. If you cannot transfer an update at all (or receive an error message stating that you cannot communicate with the data collector), please review your communications settings for both the data collector and the TranSend host computer. Make sure that the baud rates match and that the correct COM port is selected on both sides of the communication cable. Also check the integrity of the serial cable: is it securely attached to both the data collector and the host COM port?

Here is a list of transfer messages:

Code	Description
-1	Data Collector Error. If error persists, contact Support Services.
-3	COM port already in use. Quit the other application using port and retry.
-24	COM port already in use. Quit the other application using port and retry.
-33	Data Collector Part List is full. Delete unneeded setups at data collector.
-37	The setup name contains illegal characters. Edit the setup's name and retry.
-43	The Part Setup data was not found during the transfer.
-45	The Part Setup is currently the active setup at the Data Collector. Unload the setup at the data collector and retry.
-48	The Part Setup already exists at the target Data Collector. Either delete the setup at the data collector or else rename the setup and re-send.
-100	Bad command line error.
-101	The transfer has been canceled by the user.
-102	Communications timeout error. Check cabling and baud rate and retry.
-110	No parts found. Check that Setup exists.
-111	No data found. Check that Setup has data.
-200 to -209	General Communications errors. Check cabling and baud rate and retry.
-300	The setup file has illegal entries. Edit the setup file and retry the transfer.
-600	Out of Memory. Close one or more applications and retry.
-601 to -623	General communications errors. Check cabling, port, and baud rate.

SECTION

8

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