

**PC-REPORT 999**  
**REPORT GENERATOR**  
**OPERATOR MANUAL**

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# 1 REPORT GENERATION

Report data is stored in an internal database. The database consists of three identical sets that can be cleared individually. This makes it possible to store data for a shift, a week and a month. Data generated for each piece is stored in each of the three sets.

The database consists of up to nine arrays. Each array consists of up to four dimensions and five data groups. The arrays can be viewed as separate reports and the dimensions as addresses to access the data groups.

For example, in a lumber application only one array might be used for one report. To report the piece count and board footage we use three data groups since the first data group automatically count the lugs. Three dimensions are used for Length, Thickness and Width.

For each piece or lug (in a lumber application), a data block is generated. The data block is an array of numbered bytes. To see the definition of the data block for your application, look in the help in the main menu. Lumber applications data block is different from log applications.

**Define Report Printing:** Selects the files to print when a print command is given from the Main Menu. Defines button captions and headings on the main menu.

**Define Snap-Shots:** "Snap-Shot" reports print out key data for each piece going through the system.

**Report Parameters:** This menu contains parameters related to downtime reporting as well as other parameters that should never be changed after completed start-up.

**Data Arrays, Data Storage Parameters, Report Data, Breakpoints, Multipliers:** These are parameters pertaining to the report generator. They should never be changed once the system is started up unless changes are being made to the report formats.

**Variables:** These are parameters pertaining to the report generator. They should never be changed once the system is started up unless changes are being made to the report formats.

**Shift Hours:** Tells the computer when the mill is operating. This information is needed for correct downtime reporting. It does not effect the operation of the control functions of the system.

**Report Diagnostics:** This is mainly a tool to be used when setting up the tally data base and when defining the report formats. This feature should not be used during normal operation.

**Automatic Printing:** This menu item lets you program when you want to have reports automatically printed.

**Communication:** Enables the system to send and receive data to/from other systems.

**Status Screen** shows key tally data from Report Set A on the screen. This information is updated once per minute. Note that Report Set A is normally used for shift data, i.e. the Status Screen continually shows what is happening during the shift as it happens.

## 2 REPORT UTILITIES

### 2.1 DEFINE REPORT PRINTING

The screenshot shows a dialog box titled "Define Report Printing" with a close button in the top right corner. The dialog is organized into three sections, each representing a different report set:

- Set A:** Heading: "Shift". Buttons: "Summary Page", "Tally Matrix", and an empty button. Files: "STATUS.TXT", "PAGE1.TXT", and an empty field.
- Set B:** Heading: "Week". Buttons: "Summary Page", "Tally Matrix", and an empty button. Files: "STATUS.TXT", "PAGE1.TXT", and an empty field.
- Set C:** Heading: "Month". Buttons: "Summary Page", "Tally Matrix", and an empty button. Files: "STATUS.TXT", "PAGE1.TXT", and an empty field.

At the bottom of the dialog, there are three buttons: "OK" (with a green checkmark), "Cancel" (with a red X), and "Help" (with a blue question mark).

This window is used to specify the files to be printed and the caption on the buttons and windows on the main menu.

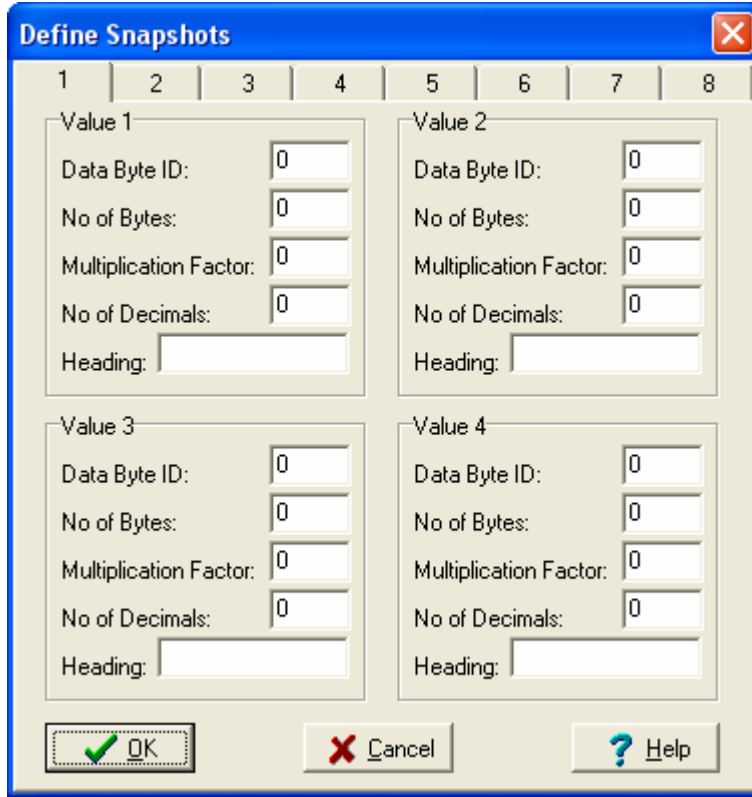
**Heading:** Defines the heading for the sets on the main menu.

**Button 1-3:** Defines the caption on the buttons on the main menu.

**File:** Selects the file to be viewed/printed for each button on the main menu.

## 2.2 DEFINE "SNAP-SHOT" REPORTS

The "Snap-shot" feature allows you to print four key data for each piece going through the system.



**Data Byte ID:** Determines the type of information that will be printed in each one of the four available fields. Please refer to the special section at the end of this manual that defines the data that is available for each piece.

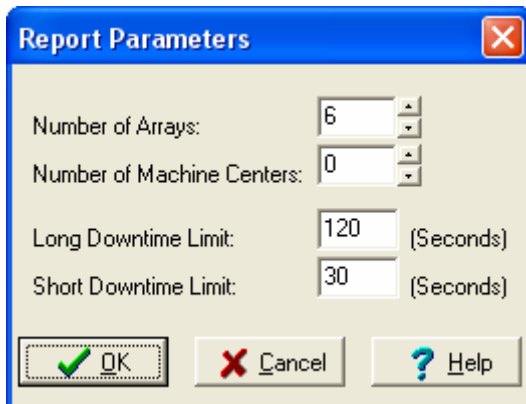
**No of Bytes:** Please refer to the same section as for the Data Byte ID. This will tell you the size of each particular data type (number of bytes). This size number should be entered here.

**Multiplication Factor:** The data might not be in the type of unit that you desire. It could, for example, be in inches and you want to show it in feet. These multipliers allow you to multiply each type of data with a multiplier before it is printed.

**No Of Decimals:** Defines the number of decimals that will be used when the data are printed on the printer.

**Heading:** You may key in any character string here to help you remember what each data type is. This string will be printed at the top of the "snap-shot" report; one for each column of data.

## 2.3 REPORT PARAMETERS



Report Parameters

Number of Arrays: 6

Number of Machine Centers: 0

Long Downtime Limit: 120 (Seconds)

Short Downtime Limit: 30 (Seconds)

OK Cancel Help

**Number of Arrays:** This parameter defines the number of arrays that are used to generate the tally reports. This number should never be changed after completed start-up.

**Long Downtime Limit:** Downtime periods exceeding this limit will be classified as Long Downtime.

**Short Downtime Limit:** Downtime periods exceeding this limit but shorter than the Long Downtime Limit are classified as Short Downtime. Downtime periods of less duration than this limit are not classified as downtime.

## 2.4 DEFINE DATA ARRAYS

### 2.4.1 Array Selection

Use the tabs at the top to select an array.

### 2.4.2 Array Definition

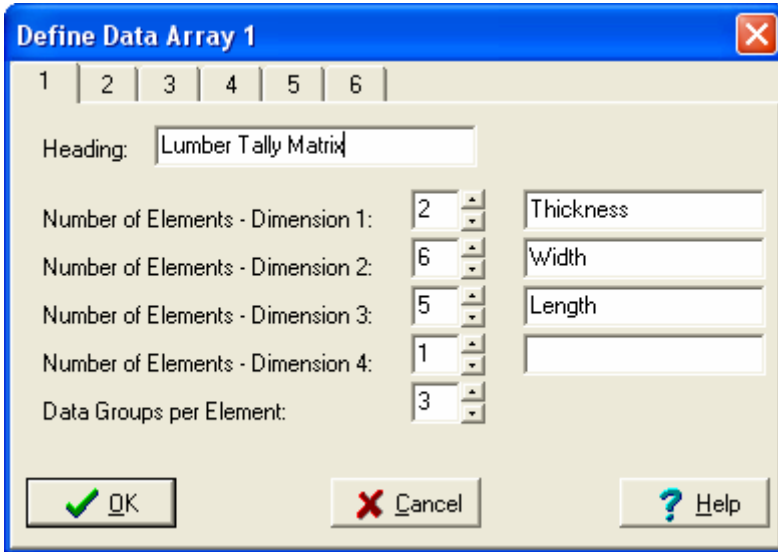
The screenshot shows a dialog box titled "Define Data Array 1". At the top, there are six tabs labeled 1, 2, 3, 4, 5, and 6. Tab 1 is selected. Below the tabs, there is a "Heading:" label followed by an empty text input field. Underneath, there are four rows of "Number of Elements - Dimension 1" through "4". Each row has a spin box containing the number "1" and an empty text input field. The last row is labeled "Data Groups per Element" and also has a spin box with "1" and an empty text input field. At the bottom of the dialog, there are three buttons: "OK" with a green checkmark icon, "Cancel" with a red X icon, and "Help" with a blue question mark icon.

This screen defines the number of elements in each dimension of the Data Array. It also defines the size (number of Data Groups) of each element.

### 2.4.3 Lumber Tally Example:

A lumber tally matrix showing piece-count and board footage for each combination of thickness, width, and length would be programmed as shown below assuming the following parameters:

Thicknesses: 1", 2" (2 thicknesses)  
Widths: 3", 4", 6", 8", 10", 12" (6 widths)  
Lengths: 8', 10', 12', 14', 16' (5 lengths)



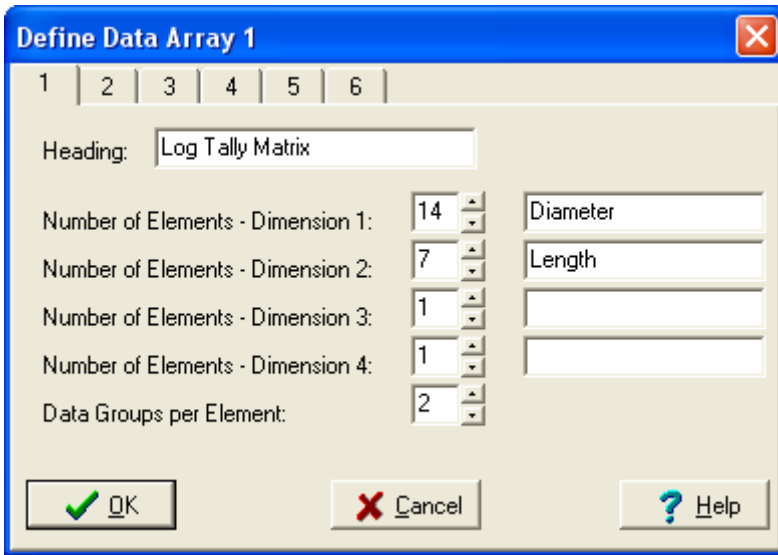
**Note:** Data Group Number 1 always shows the number of lugs, empty or filled, that have passed through the system. Therefore, we need three Data Groups for this example. Number 2 and 3 will be used for number of boards and board footage respective.

### 2.4.4 Log Tally Example:

A log tally matrix showing piece-count and volume for each combination of diameter and length would be programmed as shown below assuming the following parameters:

Diameters: Small, 4", 5", 6", 7", 8", 9", 10", 11", 12", 14", 15", 16", Large (14 diameters)

Lengths: Short, 8', 10', 12', 14', 16', Long (7 lengths)



**Note:** Data Group Number 1 always shows the number of logs. We use Data Group Number 2 for physical volume. Therefore two Data Groups for this example.

## 2.5 DATA STORAGE PARAMETERS

### 2.5.1 Array Selection

Use the tabs at the top to select an array.

### 2.5.2 Array Description

The screenshot shows a dialog box titled "Data Storage - Array 1". At the top, there are six tabs labeled 1 through 6. Tab 1 is selected. Below the tabs is a "Machine Center:" text field. Underneath are four sections, each representing a dimension:

- Dimension 1:** Text field (empty), Data Byte ID: 0, No of bytes: 1.
- Dimension 2:** Text field (empty), Data Byte ID: (empty), No of bytes: 1.
- Dimension 3:** Text field (empty), Data Byte ID: 1, No of bytes: 1.
- Dimension 4:** Text field (empty), Data Byte ID: 1, No of bytes: 1.

At the bottom of the dialog are three buttons: "OK" (with a green checkmark icon), "Cancel" (with a red X icon), and "Help" (with a blue question mark icon).

The **Machine Center** field determines from which machine center(s) the data is originating. Always enter an "8" if the data is originating from Sorter System or Lumber Tally running in the same computer. Note that more than one machine center may be entered (no separator between the digits).

The balance of this screen defines where in the Data Array the tally data will be stored. The **Data Byte ID** refers to *where* the data for each piece is stored in the Data-Block. Please refer to the Data-Block Format section for more information. The **Number of Bytes** define how many bytes that the Storage Data occupy in the Data Block.

### 2.5.3 Lumber Tally Example:

Using the example from the previous section, this screen would be programmed as follows:

**Data Storage - Array 1 - Lumber Tally Matrix**

1 | 2 | 3 | 4 | 5 | 6

Machine Center: 8

**Dimension 1**  
Thickness  
Data Byte ID: 8  
No of bytes: 1

**Dimension 2**  
Width  
Data Byte ID: 9  
No of bytes: 1

**Dimension 3**  
Length  
Data Byte ID: 11  
No of bytes: 1

**Dimension 4**  
  
Data Byte ID: 1  
No of bytes: 1

OK Cancel Help

### 2.5.4 Log Tally Example:

Using the example from the previous section, this screen would be programmed as follows:

**Data Storage - Array 1 - Log Tally Matrix**

1 | 2 | 3 | 4 | 5 | 6

Machine Center: 8

Dimension 1  
Diameter  
Data Byte ID: 8  
No of bytes: 2

Dimension 2  
Length  
Data Byte ID: 40  
No of bytes: 2

Dimension 3  
  
Data Byte ID: 0  
No of bytes: 1

Dimension 4  
  
Data Byte ID: 0  
No of bytes: 1

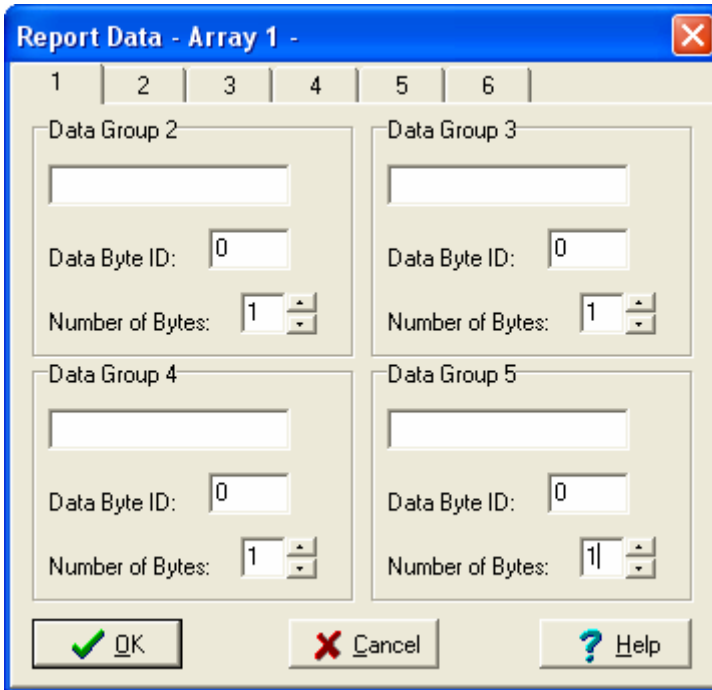
OK Cancel Help

## 2.6 DEFINE REPORT DATA

### 2.6.1 Array Selection

Use the tabs at the top to select an array.

### 2.6.2 Screen Description



This screen defines *what* data that will be stored in the Data Array. The **Data Byte ID** refers to where the data for each board is stored in the **Data-Block**. Please refer to the **Data-Block Format** section for more information. The **Number of Bytes** define how many bytes that the Storage Data occupy in the Data Block.

### 2.6.3 Lumber Tally Example:

Using the example from the previous section, this screen would be programmed as follows:

**Report Data - Array 1 - Lumber Tally Matrix**

1	2	3	4	5	6
Data Group 2		Data Group 3			
Pieces		Board Footage			
Data Byte ID: 44		Data Byte ID: 41			
Number of Bytes: 1		Number of Bytes: 3			
Data Group 4		Data Group 5			
Data Byte ID: 1		Data Byte ID: 1			
Number of Bytes: 1		Number of Bytes: 1			

OK Cancel Help

### 2.6.4 Log Tally Example:

Using the example from the previous section, this screen would be programmed as follows:

**Report Data - Array 1 - Log Tally Matrix**

1	2	3	4	5	6
Data Group 2		Data Group 3			
Volume					
Data Byte ID: 42		Data Byte ID: 0			
Number of Bytes: 3		Number of Bytes: 1			
Data Group 4		Data Group 5			
Data Byte ID: 0		Data Byte ID: 0			
Number of Bytes: 1		Number of Bytes: 1			

OK Cancel Help

## 2.7 DEFINE BREAKPOINTS

### 2.7.1 Array Selection

Use the tabs at the top to select an array.

### 2.7.2 Screen Description

The screenshot shows a dialog box titled "Breakpoints - Array 1". At the top, there are six tabs labeled 1, 2, 3, 4, 5, and 6. The dialog is divided into four sections, each for a dimension:

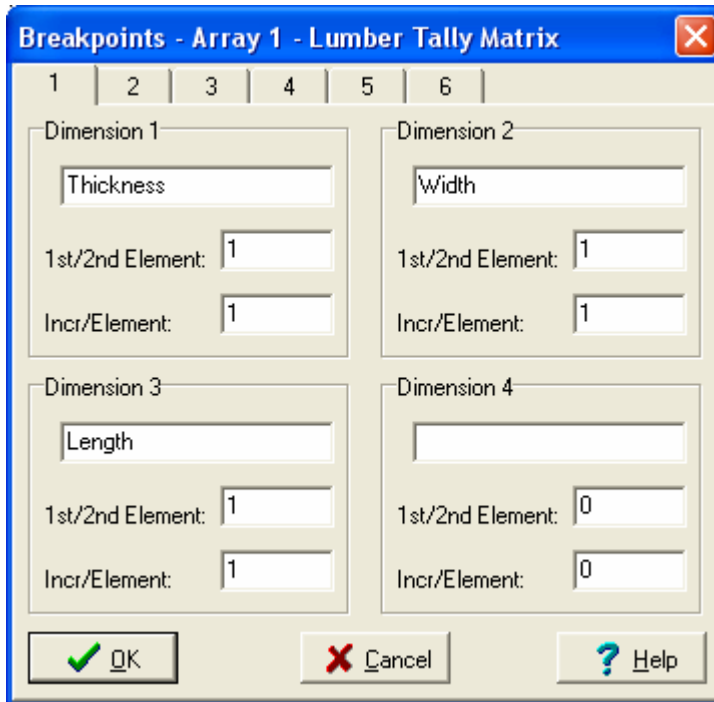
- Dimension 1:** A text input field, "1st/2nd Element: 0", and "Incr/Element: 0".
- Dimension 2:** A text input field, "1st/2nd Element: 0", and "Incr/Element: 0".
- Dimension 3:** A text input field, "1st/2nd Element: 0", and "Incr/Element: 0".
- Dimension 4:** A text input field, "1st/2nd Element: 0", and "Incr/Element: 0".

At the bottom, there are three buttons: "OK" (with a green checkmark), "Cancel" (with a red X), and "Help" (with a blue question mark).

This screen defines how the data will be classified before it is stored. The top half of the screen defines the breakpoints between the first and the second element in each dimension. Note that the programmed value is the upper limit for the first element. The limit should be programmed as an integer (no decimals) in the same units as the Data Block contains.

### 2.7.3 Lumber Tally Example:

Using the example from the previous section, this screen would be programmed as follows:



**Breakpoints - Array 1 - Lumber Tally Matrix**

1	2	3	4	5	6
Dimension 1			Dimension 2		
Thickness			Width		
1st/2nd Element: 1			1st/2nd Element: 1		
Incr/Element: 1			Incr/Element: 1		
Dimension 3			Dimension 4		
Length					
1st/2nd Element: 1			1st/2nd Element: 0		
Incr/Element: 1			Incr/Element: 0		

OK Cancel Help

### 2.7.4 Log Tally Example:

Using the example from the previous section, this screen would be programmed as follows:

**Note:** "399" stands for 3.99 inches. Diameters are transmitted in hundreds of an inch. Further, 3.99" is the upper limit of the first diameter class. "989" stands for 98.9 inches. the Lengths are transmitted in tens of an inch.

"100" stands for 1.00 inch, which is the increment between diameter classes.

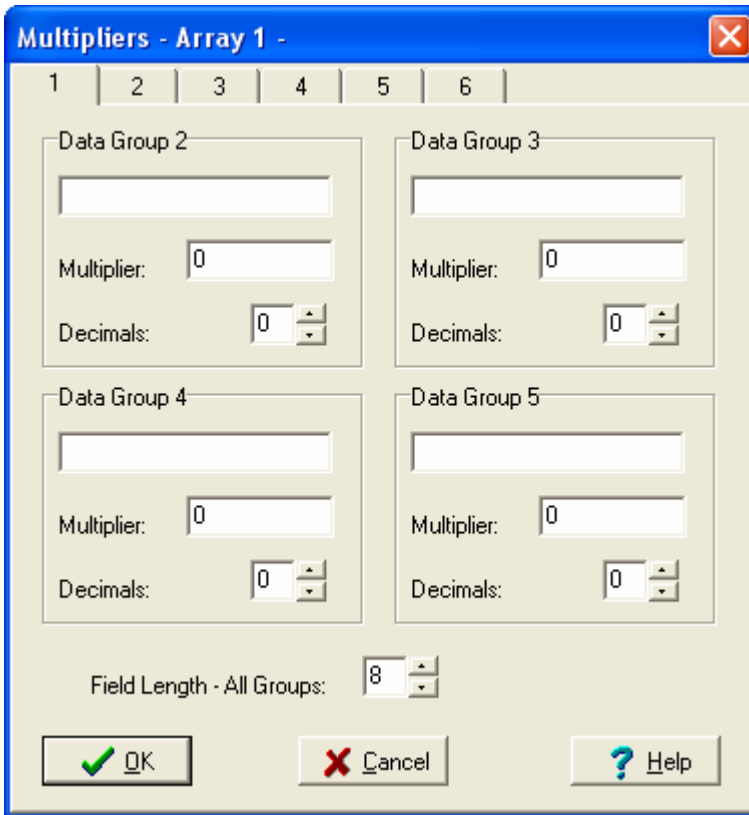
"240" stands for 24 inches, which is the increment between length classes.

## 2.8 DEFINE MULTIPLIERS

### 2.8.1 Array Selection

Use the tabs at the top to select an array.

### 2.8.2 Screen Description



This screen defines how the data will be classified before it is stored. The top half of the screen defines the breakpoints between the first and the second element in each dimension. Note that the programmed value is the upper limit for the first element. The limit should be programmed as an integer (no decimals) in the same units as the Data Block contains.

### 2.8.3 Lumber Tally Example:

Using the example from the previous section, this screen would be programmed as follows:

The screenshot shows a dialog box titled "Multipliers - Array 1 - Lumber Tally Matrix". At the top, there are six tabs labeled 1 through 6. The main content area is divided into four sections for "Data Group 2", "Data Group 3", "Data Group 4", and "Data Group 5". Each section contains a text input field, a "Multiplier:" label with a text input field, and a "Decimals:" label with a spin button. Data Group 2 has "Pieces" in the input field, a multiplier of "1", and 0 decimals. Data Group 3 has "Board Footage" in the input field, a multiplier of "0.0833", and 0 decimals. Data Group 4 has an empty input field, a multiplier of "1", and 0 decimals. Data Group 5 has an empty input field, a multiplier of "1", and 0 decimals. Below these sections is a "Field Length - All Groups:" label with a spin button set to "8". At the bottom of the dialog are three buttons: "OK" with a green checkmark, "Cancel" with a red X, and "Help" with a blue question mark.

The Board Footage is shown in the Data Block as Cubic Inches divided by 12. One Board Foot is 144 Cubic Inches. Consequently, we need to divide the value in the Data Block by 12, i.e. multiply by 0.08333 to convert to Board Feet.

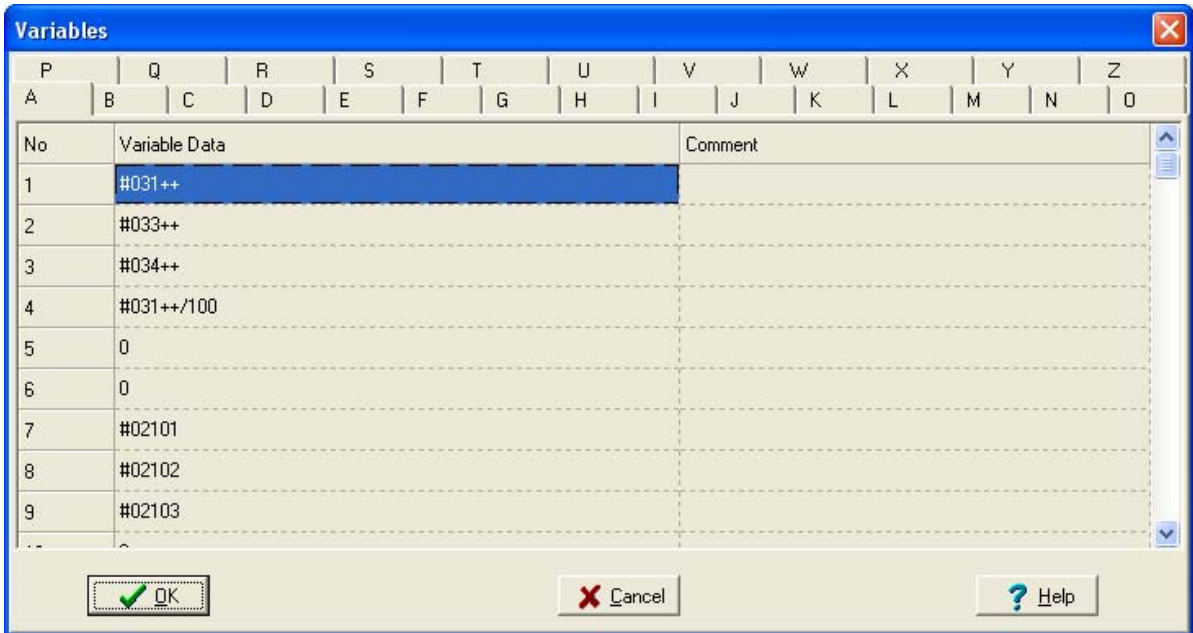
### 2.8.4 Log Tally Example:

Using the example from the previous section, this screen would be programmed as follows:

The screenshot shows a dialog box titled "Multipliers - Array 1 - Log Tally Matrix". At the top, there are tabs labeled 1 through 6. The main area is divided into four sections for "Data Group 2", "Data Group 3", "Data Group 4", and "Data Group 5". Each section contains a text input field for the group name, a "Multiplier:" input field, and a "Decimals:" spinner control. Data Group 2 has "Pieces" as the name, a multiplier of 1, and 0 decimals. Data Group 3 has "Volume" as the name, a multiplier of 0.01, and 0 decimals. Data Group 4 and Data Group 5 have empty name fields, a multiplier of 1, and 0 decimals. Below these sections is a "Field Length - All Groups:" spinner control set to 8. At the bottom, there are three buttons: "OK" (with a green checkmark), "Cancel" (with a red X), and "Help" (with a blue question mark).

The Volume is shown in the Data Block as Cubic Feet multiplied by 100. Therefore, to convert to Cubic Feet we need to divide by 100.

## 2.9 VARIABLES



### 2.9.1 Overview

Variables are used to simplify calculations in the reports. A variable can be a constant or an expression. Expressions consist of arithmetic operators on database addresses. Type A variables may be used in expressions in other variables.

Operators are:

- & Add.
- Subtract.
- \* Multiply.
- / Divide.
- + Summarize all values in a dimension.

Special symbols are:

- m Number of minutes into shift.
- s Short downtime minutes.
- l Long downtime minutes.
- a Number of short downtimes.
- b Number of long downtimes.

Example expression:  $(\#0110902++ * \#A1)/(\#011++++++)$

## 2.9.2 Database addresses

A database address consists of the following parameters:

#aag11[22[3[4]]] where

# is the number sign.  
aa is the array number.  
g is the group number.  
11 is dimension 1.  
22 is the optional dimension 2.  
3 is the optional dimension 3.  
4 is the optional dimension 4.

Example 1: #01102  
Array 1, group 1, 2nd element in dimension 1.

Example 2: #025221132  
Array 2, group 5, 22nd element in dimension 1, 11th element in dimension 2, 3rd element in dimension 3 and 2nd element in dimension 4.

### Note 1:

If \*\* is following #, the value of the address is divided with the value of group 1. Since group 1 always contains the piece count, this is a simple way to get average values.

Example: #\*\*0120101 divides the value of group 2 with the value in group 1.

### Note 2:

If \*XY\* is following #, where XY defines a variable, the value of the address is divided with the value of the variable.

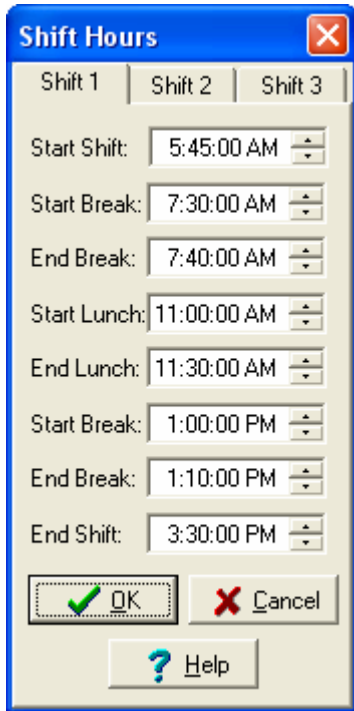
Example: #\*A01\*0120101 divides the value in group 2 with the value of variable A1.

## 2.10 SHIFT HOURS

### 2.10.1 Shift Selection

Select a shift using the tabs at the top..

### 2.10.2 Screen Description

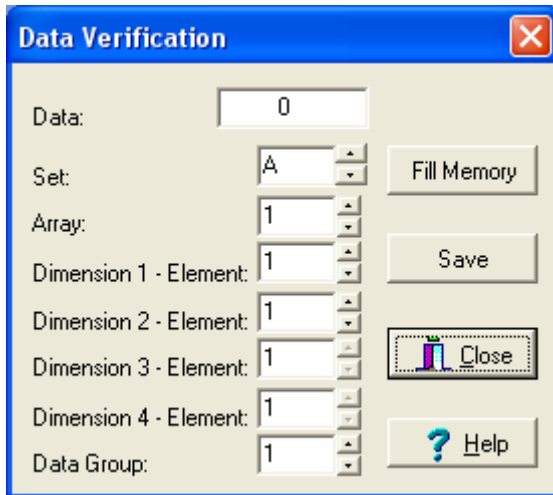


The screenshot shows a dialog box titled "Shift Hours" with a close button (X) in the top right corner. At the top, there are three tabs labeled "Shift 1", "Shift 2", and "Shift 3". Below the tabs, there are eight time selection fields, each with a text box and a small up/down arrow icon to its right. The fields are: "Start Shift:" (5:45:00 AM), "Start Break:" (7:30:00 AM), "End Break:" (7:40:00 AM), "Start Lunch:" (11:00:00 AM), "End Lunch:" (11:30:00 AM), "Start Break:" (1:00:00 PM), "End Break:" (1:10:00 PM), and "End Shift:" (3:30:00 PM). At the bottom of the dialog, there are three buttons: "OK" (with a green checkmark icon), "Cancel" (with a red X icon), and "Help" (with a blue question mark icon).

Program the times using the arrows to the right of the time fields or use the numeric keys on the keyboard.

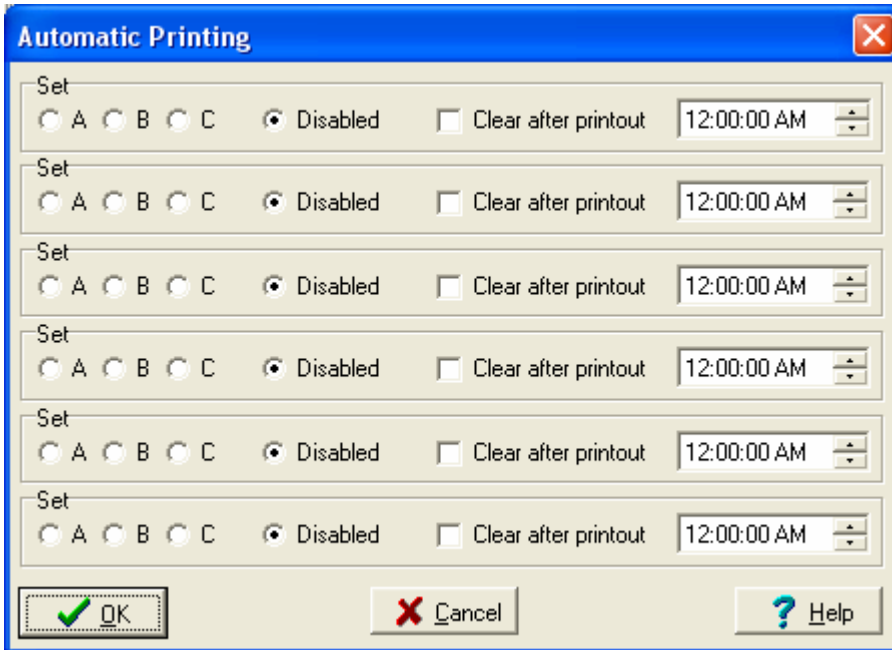
## 2.11 REPORT DIAGNOSTICS

### 2.11.1 Data Verification



This menu is used to verify that the database is working. Set the different parameters and read/write the value in the data field. The *Fill Memory* button fills all memory cells with the address to the cell. ie., Set = 1, Array = 2, Dimension 1 = 3, Dimension 2 = 4, Dimension 3 = 5, Dimension 4 = 6 and Data group = 5 gives 1020304565 in the data field.

## 2.12 AUTOMATIC PRINTING



**Set:** Refers to the report sets that are defined in the Main Menu.

**Disabled:** Used to disable an automatic printout.

**Clear after printout:** Tells the computer that you want it to reset all data accumulators that pertain to this particular Report Set after it has printed the report.

Select the time using the arrows to the right of the time field or use the numeric keys on the keyboard.

## 3 COMMUNICATION

### 3.1 FROM THIS SYSTEM / DATA TRANSFER

Data No.	Byte Number	Number of Bytes	Multiplier	No of Decimals	Comment
1	0	1	0	0	
2	0	1	0	0	
3	0	1	0	0	
4	0	1	0	0	
5	0	1	0	0	
6	0	1	0	0	

Targets:  File  Network  Serial Port

Com Port: Com 1

Options:  Use Date  Use Time

File Name: [ ]

Network Address: [ ]

Network Port: [ ]

OK Cancel Help

The Data Transfer window defines how to export data from the system. Integer data is multiplied with a real constant, converted to ASCII and sent as comma delimited text.

**Data No** is the position of data in the comma delimited text string.

**Byte Number** is the position in the data block where to start getting data bytes.

**Number of Bytes** determines how many bytes should be used.

**Multiplier** is used to scale data to selected units.

**Decimals** decides how many decimals should be used in the ASCII conversion.

**Comment** is used do document what data is representing.

**Target** selects one or more targets for the ASCII data..

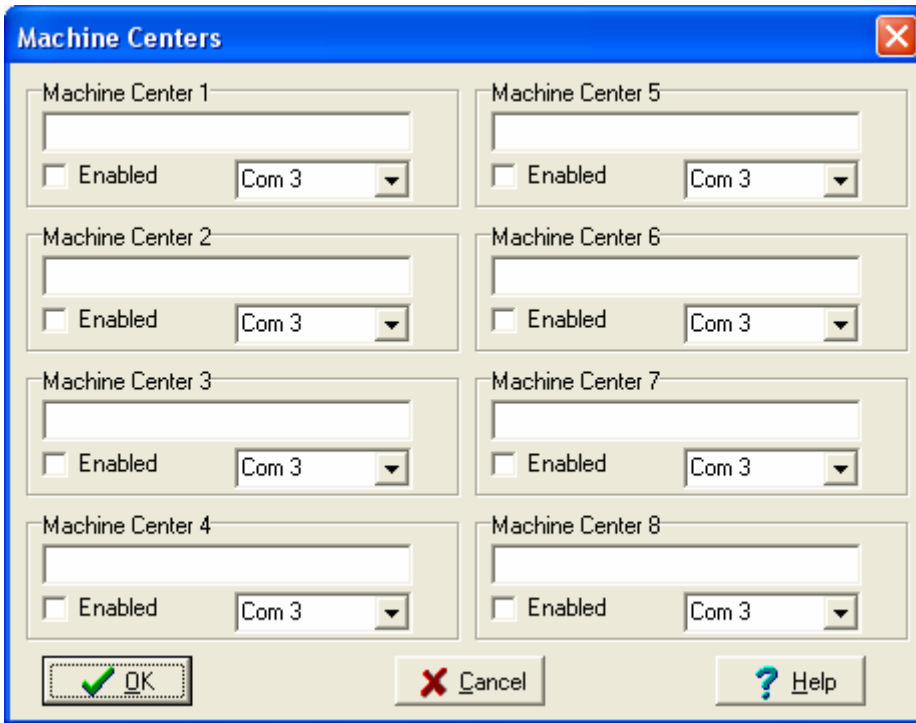
**Com Port** selects the serial com port..

**Options.** Date and or Time can optionally be included in each comma delimited text string.

**File Name** specifies the file if the target is set to File.

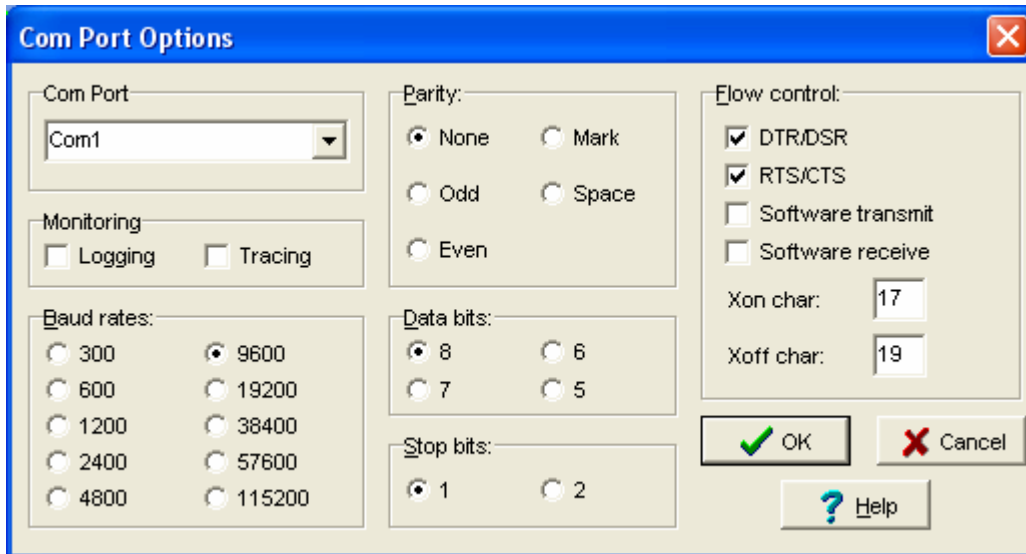
**Network Address** and **Network Port** is used when the target is set to Network.

### 3.2 TO THIS SYSTEM / MACHINE CENTERS



Up to eight external machine centers can be connected to the system through serial port or network. To connect a machine center, check the enabled field and select a serial port or network.

### 3.3 COM PORTS



**Com Port:** Selects a com port.

**Monitoring/Logging:** Saves the last 20000 bytes serial data in a file named *COMx.LOG* where x is the number of the com port. The file is generated when the program terminates. Logging gives a more accurate timing information than tracing but is a little harder to interpret. When debugging serial connections, tracing is recommended before using logging.

**Monitoring/Tracing:** Saves the last 20000 bytes serial data in a file named *COMx.TRC* where x is the number of the com port. The file is generated when the program terminates. Data is stored in order as seen by the program logic in an easy to understand format.

**Baud rates:** Selects baud rate

**Parity:** Selects parity

**Data Bits:** Selects number of data bits.

**Stop Bits:** Selects number of stop bits.

**Flow Control/DTR/DSR:** Selects hardware flow control signals Data Terminal Ready and Data Set Ready.

**Flow Control/RTS/CTS:** Selects hardware flow control signals Request To Send and Clear To Send.

**Flow Control/Software Transmit:** Enables/disables XON/XOFF for transmit.

**Flow Control/Software Receive:** Enables/disables XON/XOFF for receive.

**Flow Control/XON character:** Set the XON character. Normally 17 decimal.

**Flow Control/XOFF character.** Set the XOFF character. Normally 19 decimal.

## 4 STATUS SCREEN

**Status Screen** shows key tally data from Report Set A on the screen. This information is updated once per minute. Note that Report Set A is normally used for shift data, i.e. the Status Screen continually shows what is happening during the shift as it happens.

## 5 DATA BLOCK FORMATS

### 5.1 BOARD DATA-BLOCK FORMAT

The following information is generated for every board being processed by the system:

Byte	Config.	Description	
1-7		Misc. Control Bytes	
8	Byte 1	Thickness Class	
9	Byte 1	Width Class	
10	Byte 1	Trim Length Class	
11	Byte 1	Sorter Length Class	
12	Byte 1	Grade	
13	Byte 1 - L	Actual Thickness	(inches or cm x 100)
14	Byte 2 - M	Actual Thickness	
15	Byte 1 - L	Actual Width	(inches or cm x 100)
16	Byte 2 - M	Actual Width	
17	Byte 1 - L	Actual Trim Length	(feet or dm x 10)
18	Byte 2 - M	Actual Trim Length	
19	Byte 1 - L	Actual Sort Length	(feet or dm x 10)
20	Byte 2 - M	Actual Sort Length	
21	Byte 1 - L	Nominal Thickness	(inches or cm x 100)
22	Byte 2 - M	Nominal Thickness	
23	Byte 1 - L	Nominal Width	(inches or cm x 100)
24	Byte 2 - M	Nominal Width	
25	Byte 1 - L	Nominal Trim Length	(feet or dm x 10)
26	Byte 2 - M	Nominal Trim Length	
27	Byte 1 - M	Nominal Sort Length	(feet or dm x 10)
28	Byte 2 - L	Nominal Sort Length	
29	Byte 1 - L	Actual Trim Volume	(Cubic inches/12 or Cubic Centimeters/10)
30	Byte 2	Actual Trim Volume	
31	Byte 3 - M	Actual Trim Volume	
32	Byte 1 - L	Actual Produced Volume	(Cubic inches/12 or Cubic Centimeters/10)
33	Byte 2	Actual Produced Volume	
34	Byte 3 - M	Actual Produced Volume	
35	Byte 1 - L	Nominal Trim Volume	(Cubic inches/12 or Cubic Centimeters/10)
36	Byte 2	Nominal Trim Volume	
37	Byte 3 - M	Nominal Trim Volume	

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38	Byte 1 - L	Nominal Produced Volume	(Cubic inches/12 or Cubic Centimeters/10)
39	Byte 2	Nominal Produced Volume	
40	Byte 3 - M	Nominal Produced Volume	
41	Byte 1 - L	Nominal Sorted Volume	(Cubic inches/12 or Cubic Centimeters/10)
42	Byte 2	Nominal Sorted Volume	
43	Byte 3 - M	Nominal Sorted Volume	
44	Byte 1	Lug Status	(0 = Empty; 1 = Board)
45	Byte 1	Thickness Out-of-Range	(0 = Not True; 1 = True)
46	Byte 1	Width Out-of-Range	(0 = Not True; 1 = True)
47	Byte 1	Skewed Board	(0 = Not True; 1 = True)
48	Byte 1	"No J-Bar" Board	(0 = Not True; 1 = True)
49	Byte 1	"No Bin" Board	(0 = Not True; 1 = True)
50	Byte 1	"No Sort" Board	(0 = Not True; 1 = True)
51	Byte 1	Dropout Gate A	(1 = Diverted to Gate A; Otherwise = 0)
52	Byte 1	Dropout Gate B	(1 = Diverted to Gate B; Otherwise = 0)
53	Byte 1	Dropout Gate C	(1 = Diverted to Gate C; Otherwise = 0)
54	Byte 1	"Catch All" Bin	(1 = No Address; Otherwise = 0)
55	Byte 1	Sort	(Sort Number assigned to the board)
56	Byte 1	Bin	(Bin Number assigned to the Board)
57	Byte 1	Short Piece Trim Decision	0: 0' 1: 2' 2: 4' 3: 6' 4: 8' 5: 10' 6: 12'
58	Byte 1	Trim Decision	1: Auto Trim 2: PET 3: Pass 4: Trim Error
59	Byte 1	Current Sort Table	
60	Byte 1	Number of 4's	
61	Byte 1	Number of 6's	
62	Byte 1 - L	Volume of 4's	([60] x [21/22] x [23/24] x 4)
63	Byte 1 - M	Volume of 4's	(Cubic inches/12)

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64	Byte 1 - L	Volume of 6's	$([61] \times [21/22] \times [23/24] \times 6)$
65	Byte 1 - M	Volume of 6's	(Cubic inches/12)
66	Byte 1 - L	Nominal Trim Loss	$(([25/26] - [27/28]) \times [21/22] \times [23/24])$
67	Byte 2	Nominal Trim Loss	(Cubic inches/12)
68	Byte 3 - M	Nominal Trim Loss	
69	Byte 1	Trimmer Lug Status	(1 = Board Entering Trimmer) (0 = Empty Lug)
70	Byte 1	Sorted Board	(1 = Lug Filled) (0 = Empty Lug or Dropout)

Note that [xx/yy] means the content of bytes xx and yy.

## 5.2 LOG DATA-BLOCK FORMAT

### 5.2.1 Byte Definitions

The following information is generated for every log being processed by the system:

Byte	Config.	Description
1-7		Misc. Control Bytes
8	Byte 1 – L	Top Diameter - Axis 1
9	Byte 2 – M	Top Diameter - Axis 1
10	Byte 1 – L	Top Diameter - Axis 2
11	Byte 2 – M	Top Diameter - Axis 2
12	Byte 1 – L	Top Diameter - Average of Axis 1 & 2
13	Byte 2 – M	Top Diameter - Average of Axis 1 & 2
14	Byte 1 – L	Top Diameter - Smallest of Axis 1 & 2 *
15	Byte 2 – M	Top Diameter - Smallest of Axis 1 & 2 *
16	Byte 1 – L	Butt Diameter - Average of Axis 1 & 2
17	Byte 2 – M	Butt Diameter - Average of Axis 1 & 2
18	Byte 1 – L	Smallest Diameter - Average of Axis 1 & 2
19	Byte 2 – M	Smallest Diameter - Average of Axis 1 & 2
20	Byte 1 – L	Largest Diameter - Average of Axis 1 & 2
21	Byte 2 – M	Largest Diameter - Average of Axis 1 & 2
22	Byte 1 – L	Position Diameter - Axis 1
23	Byte 2 – M	Position Diameter - Axis 1
24	Byte 1 – L	Position Diameter - Axis 2
25	Byte 2 – M	Position Diameter - Axis 2
26	Byte 1 – L	Position Diameter - Average of Axis 1 & 2
27	Byte 2 – M	Position Diameter - Average of Axis 1 & 2
28	Byte 1 – L	Position Diameter - Smallest of Axis 1 & 2
29	Byte 2 – M	Position Diameter - Smallest of Axis 1 & 2
30	Byte 1 – L	Center Diameter - Axis 1
31	Byte 2 – M	Center Diameter - Axis 1

The Top End Diameter from dual-axis scanners is inserted into these two bytes.

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32	Byte 1 – L	Center Diameter - Axis 2	
33	Byte 2 – M	Center Diameter - Axis 2	
34	Byte 1 – L	Center Diameter - Average of Axis 1 & 2	
35	Byte 2 – M	Center Diameter - Average of Axis 1 & 2	
36	Byte 1 – L	Center Diameter - Smallest of Axis 1 & 2	
37	Byte 2 – M	Center Diameter - Smallest of Axis 1 & 2	
38	Byte 1 – L	Average Diameter - Average of Axis 1 & 2	
39	Byte 2 – M	Average Diameter - Average of Axis 1 & 2	
40	Byte 1 – L	Log Length	
41	Byte 2 – M	Log Length	
42	Byte 1 – L	Physical Volume	
43	Byte 2	Physical Volume	
44	Byte 3 – M	Physical Volume	
45	Byte 1 – L	Top Volume	
46	Byte 2	Top Volume	
47	Byte 3 – M	Top Volume	
48		Taper	
49		Maximum Cord/Curve Distance	
50	Byte 1 – L	Location of Max. Cord/Curve Dist.	
51	Byte 2 – M	Location of Max. Cord/Curve Dist.	
52		Orientation of Max. Cord/Curve Dist.	
53		Ovality	
54		Log Orientation (0=Butt First; 1=Top First)	
55		Bin Number	
56		Unit Mode (0 = Metric; 1 = Imperial)	
57	Byte 1 – L	Scale 1 Volume	
58	Byte 2	Scale 1 Volume	
59	Byte 3 – M	Scale 1 Volume	
60		Over Size	(0 = Not True; 1 = True)
61		Wrong Orientation	(0 = Not True; 1 = True)
62		Excessive Sweep	(0 = Not True; 1 = True)
63		Diameter Class	
64		Length Class	
65		Taper Class	
66		Grade	

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67		Sort	
68		Status Rema:	(0 = No Data Block) (1 = Valid Data Block) (2 = Checksum Error) (3 = No Log (Empty Block))
		STI:	(0 = OK) (1 = Log too Short) (2 = Pos. Dia. too Large)
69		Reject	(1 = Reject, 0 = No Reject)
70		Error Code	From the Rema Scanner
71		Error Data	From the Rema Scanner
72	Byte 1 – L	Sort Diameter	
73	Byte 2 – M	Sort Diameter	

### 5.2.2 Units and Ranges - Metric Units

Description	Unit	Range
Diameters	mm	0 - 2,000 mm
Length	cm	0 - 25,000 cm
Volume	0.0001 Cu.Mtr	0.0005 - 40 Cu.Mtr.
Taper	mm/m	0 - 255 (mm/m)
Cord/Curve Dist.	Mm	0 - 255 mm
C/CD Position	mm	0 - 25,000 mm
Orientation	360/256 Degr	360/256 Degr.
Ovality	%	0 - 255 $((D1-D2)/(0.5*(D1+D2))*100)$

### 5.2.3 Units and Ranges - Imperial Units

Description	Unit	Range
Diameters	0.01"	0 - 80"
Length	0.1"	0 - 1000"
Volume	0.01 Cu.Ft.	0.2 - 1,500 Cu.Ft.
Taper	0.01"/Ft.	0 - 2.55 "/Ft.
Cord/Curve Dist.	0.1"	0.0 - 25.5"
C/CD Position	0.1"	0 - 1,000"
Orientation	360/256 Degr.	360/256 Degr.