

Apperson  
 **DataLink™** 1200



## User's Manual

Apperson™  
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## About DataLink™ 1200

The DataLink 1200 is a versatile scanner designed to score tests, process ballots and tabulate surveys. It can perform these functions in stand-alone mode or connected to a computer for advanced data collection.

The DataLink 1200 uses reflective read technology for superior pencil mark recognition. **Always use a No. 2 lead pencil** when completing DataLink scan sheets. The scanner will not read marks from ink pens or markers, even if the marks are black.



A large selection of DataLink answer sheets, ballots, surveys and analysis forms are available. These forms have been specifically designed to utilize the advanced features of the DataLink 1200 including paper skew detection and reading student ID numbers.



## Scoring Tests

The DataLink 1200 must be programmed with the correct answer pattern prior to scoring answers sheets. To program the scanner, simply insert the teacher key. When properly keyed, the scanner will display the number of questions keyed on the display window and you may begin inserting answers sheets for scoring. The DataLink 1200 will score up to 200 questions.



KEYED 30

### Preparing the Key

To designate an answer sheet as a key, mark the Key bubble [K] in the keyline as shown below.

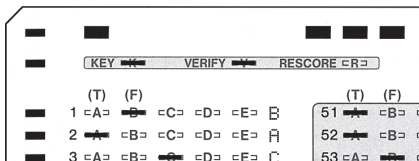


Key  K    Verify  V    Rescore  R

When the Verify [V] option is marked on the keyline, correct answers are printed on individual student answer sheets. If the Verify [V] bubble is not marked, a dash (-) prints next to incorrect responses.

Mark the Rescore [R] bubble in the keyline to rescore a previously scored test. Rescoring a test automatically enables the verify option.

After marking the keyline, fill in the correct answer pattern for each question on the test. Multiple marks may be keyed as the correct answer for a question. Questions keyed with multiple marks will be indicated with an 'X' printed next to the question for verification purposes.



## Key Reset Options

There are two key reset options available for test-scoring. When the your scanner is powered on it automatically enters into the Score Mode option. Pressing the “**Reset Options**” button will put the scanner in Rescore Mode. Rescore Mode has the identical effect as marking the Rescore [R] bubble in the keyline.

The scanner must be in either **Score Mode** (Ready) or **Rescore Mode** to score answer sheets.

*Continued on page 4*

## Scoring

When the key has been marked with the correct answers, insert it through the scanner. ***Always verify the key has been properly recorded before inserting student answer sheets.*** Once keyed, begin processing student answer sheets. Up to 9,999 answer sheets can be processed in a single batch.

If the test includes questions from both sides of the answer sheet, first process side 1 of the key immediately followed by side 2 (*the Key [K] bubble **must** be marked on each side of the key in order to key multiple sides*). When scoring multiple sides, each side of a test answer sheet must be processed before processing another answer sheet. You may score up to 200 questions in this manner.

As student forms are fed through the scanner, the total number of correct answers for each student appears in the window display and is also printed inside the **Score** box at the bottom of the form, *or inside the **Rescore** box if the Rescore [R] bubble was marked.*

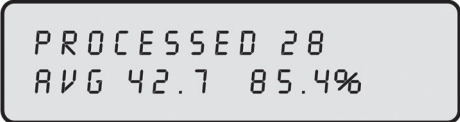
If an answer sheet is rejected by the scanner, check the window display for the cause of the problem. Take corrective action and reinsert the answer sheet. If the problem persists, refer to the Troubleshooting section of the user manual.

## Getting a Summary of the Test Results

There are several summary options available once a test has been scored. Summaries can be printed using an Item Analysis report form or viewed on the display panel. When viewing summary information you may insert additional answer sheets for continued scoring at any time.

### Class Average

Press “**Summary Display**” on the display panel to view the class average and number of sheets processed.



PROCESSED 28  
AVG 42.7 85.4%

*Continued on page 6*

## Tally of Incorrect Answers & Frequency Distribution Report

After processing a batch of answer sheets use the **Item Analysis Form 23570** to get a detailed report of the test. The Item Analysis report will provide a frequency distribution of scores in 5% increments. The report also lists the number of wrong answers selected for each test question.

If the Item Analysis Form is not available, the number of wrong answers per question can be viewed in the display window. To view the number of wrong answers for each question, press the **“Summary Display”** button twice. Follow the instructions displayed in the window for viewing the tally of wrong answers. While viewing this information you can continue processing additional answer sheets at any time.

### Item Analysis (Questions 1-100)

Prints the number of incorrect responses per test question. A tally of responses will be printed when used with ballots/surveys.

Insert Pass 1 followed by Pass 2. Carefully remove the strip along the perforation prior to inserting pass 3.

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Test or Ballot Name \_\_\_\_\_

To display results as a percentage, mark this bubble.

Class \_\_\_\_\_ Date \_\_\_\_\_

Forms Scanned	0% to 4.9%	5% to 9.9%	10% to 14.9%	15% to 19.9%	20% to 24.9%	25% to 29.9%	30% to 34.9%	35% to 39.9%	40% to 44.9%	45% to 49.9%	50% to 54.9%	55% to 59.9%	60% to 64.9%	65% to 69.9%	70% to 74.9%	75% to 79.9%	80% to 84.9%	85% to 89.9%	90% to 94.9%	95% to 99.9%	100%
---------------	------------	------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	------

Class Avg	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
-----------	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----





## Processing Ballots

**Ballot Form 26440** is specifically designed for processing ballots with the DataLink 1200. This form tabulates the votes for up to 100 candidates. Election results can be obtained by inserting Item Analysis Form 23570 through the scanner when the batch processing is complete, or by viewing results on the display window. Up to 9,999 ballots can be processed in a single batch.

Ballot response bubbles are labeled 1 through 100. Assign each candidate a unique number which corresponds to a number on the ballot form. You have an option of allowing multiple votes per row or accepting only a single selection per row. Allowing only single selections per row can restrict students from voting for more than one candidate for an office. The default option allows multiple selections per row.

To accept only one selection per row, you must mark ***the first ballot*** processed as indicated below. In this mode, if a ballot contains multiple selections on a row, none of the

**FOR OFFICE USE ONLY** - When this box is marked on the first survey, the scanner allows only one mark per horizontal row.

*Continued on page 8*

selections for that row will be included in the tally. After each ballot is scanned, a verification number is printed inside the Ballot Verification box.

For information on how to process elections with more than 100 candidates or when using a standard answer sheet for elections, refer to the section titled “Data Collection Operation” on page 11.

### Getting Election Results

To obtain the results of an election, insert side 1 of Item Analysis Form 23570 through the scanner. The Item Analysis Form can be inserted at any time during or after batch processing without interruption of the tabulation process.

**Warning:** pressing the “*Reset Options*” button will clear all election results.

In the event an Item Analysis Form 23570 is not available, the election information can be viewed in the display window. To view election results press the “*Summary Display*” button after batch processing and follow the instructions displayed in the window for viewing the results.



CANDIDATE 23  
127 VOTES



## Processing Surveys

**Survey Form 28010** is specifically designed for processing surveys with the DataLink 1200. This form can be used for surveys with up to 40 questions. It includes 5 choices for each question. Survey results can be obtained by inserting Item Analysis Form 23570 through the scanner when the batch processing is complete, or by viewing results on the display window. Up to 9,999 surveys can be processed in a single batch.

Design your survey questions and selections to match the bubble pattern on the survey form. On Survey Form 28010 you can choose to accept multiple marks per question or accept only single marks. Mark your selection on the top of the first survey scanned, as shown below. If no selection is made then the scanner will accept multiple marks for each question.

**FOR OFFICE USE ONLY** - When this box is marked on the first survey, the scanner allows only one mark per horizontal row.

After each survey is scanned, a verification number is printed inside the Survey Verification box.

*Continued on page 10*


For information on how to process surveys with more than 40 questions or when using a standard DataLink 1200 answer sheet for surveys, refer to the section titled “Data Collection Operation” on page 11.

### Getting Survey Results

To obtain the results of a survey, insert side 1 (and side 2, if necessary) of Item Analysis Form 23570 (or Tally Report Form 23580) through the scanner. The Item Analysis Form can be inserted at any time during or after batch processing without interruption of the tabulation process.

**Warning:** pressing the **Reset Options** button will clear all survey results.

In the event an Item Analysis Form 23570 or Tally Report 23580 are not available, the survey information can be viewed in the display window. To view survey results press the “**Summary Display**” button after batch processing and follow the instructions displayed in the window for viewing the results.



```
PROCESSED 310  
18) 214 MARKS
```



## Data Collection Operation

Placing the DataLink 1200 in data collection mode disables standard test scoring operations. This can be useful when processing surveys, evaluations or ballots with standard test answer sheets or customized scan forms. When in data collection mode, the scanner will create a tally of all marks made on the sheets. The tabulation results can be obtained by inserting Item Analysis Form 23570 through the scanner when the batch processing is complete, or by viewing results on the display window. Up to 9,999 scan sheets can be processed in a single batch.

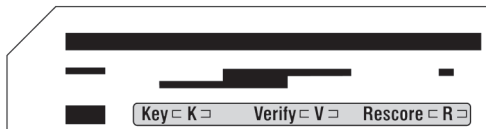
To enter into **Data Collection Mode** press the “**Reset Options**” button 2 or 3 times until **Data Collection** appears in the display window.

In this mode, all selections for each question will be tabulated. Up to 100 questions can be tabulated in Data Collection mode. When tabulating questions which are on both sides of an answer sheet, scan side 1 of a sheet followed by side 2 before continuing onto the next sheet.

*Continued on page 12*

The following data collection options can be enabled by making the appropriate selection on the keyline of the **first sheet scanned**.

**MARK THESE OPTIONS ON THE FIRST SHEET ONLY**



Mark 'R' if you will be performing data collection on both sides of the sheet.

Mark 'V' if you want a scan verification number printed in the score box of each sheet.

Mark 'K' to accept only one selection per row. If you select the 'K' option, when a sheet contains multiple selections on a row, none of the selections for that row will be included in the tally. If the 'K' option is not marked on the first sheet scanned, multiple marks will be allowed throughout batch processing.

To obtain the results from data collection processing, insert side 1 (and side 2, if necessary) of Item Analysis Form 23570 through the scanner. This form will provide a tabulation of all marks entered during batch processing. The Item Analysis Form can be inserted at any time during or after batch processing without interruption of the tabulation process.

**Warning:** Pressing the “**Reset Options**” button will clear all data collection information.

In the event an Item Analysis Form 23570 is not available, the results can be viewed in the display window. To view the results press the “**Summary Display**” button after batch processing and follow the instructions displayed in the window for viewing the tabulated results.



## Print Cartridge Operations

The DataLink 1200 uses a disposable Hewlett-Packard ink cartridge (Item #26370) for print operations. Under normal operating conditions the cartridge should provide reliable service for up to a year.

### Installing a New Print Cartridge

1. Squeeze the print cartridge cover and firmly press in the tab located on the right side to disengage the cover (Fig.1). Lift the cover away from the scanner (Fig. 2).
2. Remove all packaging materials from the new ink cartridge including the protective tape that covers the silver nozzle place of the cartridge. (Fig. 3, pg. 15).



Fig. 1



Fig. 2



3. Insert the print cartridge into the scanner (Fig. 4).
4. Replace the printer cover by aligning the locking tabs with their corresponding holes on the scanner housing. Firmly press in the tab on the right side of the cover and press into the housing until the tabs lock into place.

## Removing a Print Cartridge

1. Squeeze the print cartridge cover and firmly press in the tab located on the right side to disengage the cover (Fig. 1, pg. 14). Lift the cover away from the scanner (Fig. 2).
2. Remove the cartridge from the scanner (Fig. 5).



**Fig. 3**



**Fig. 4**



**Fig. 5**

*Continued on page 16*

## Servicing a Print Cartridge

1. Remove the cartridge using the instructions listed on pg 14 and 15.
2. Gently wipe the silver nozzle plate of the cartridge with a paper towel (Fig. 6). Inspect the plate to ensure all dust and lint has been removed.
3. Replace the cartridge following instructions 3 and 4 on pg. 14 and 15 **Installing a New Print Cartridge**, and as shown in Fig. 4 and 5.



Fig. 6

If a cartridge continues to print poorly after wiping the nozzle plate, a new print cartridge may be necessary.

Check out our Learning Center to see live action videos on how to change your ink cartridges. View our online tutorials at [www.apperson.com](http://www.apperson.com)



## Connecting the DataLink™ 1200 to a Computer

The DataLink 1200 can connect to a computer using the USB cable that came with the scanner. To use the USB cable, it is first necessary to install the DataLink Connect software.



DataLink Connect is a data-collection software program developed by Apperson for retrieving data from the Apperson family of data-enabled scanners. Using your scanner with DataLink Connect software allows you to turn your test data into valuable data-rich reports. DataLink Connect reports can be printed, saved, converted into PDFs, or exported into Microsoft® Excel® spreadsheets. DataLink Connect allows you to immediately access test data including Item Analysis, Class Roster, Student and Class Proficiency Reports and more. DataLink Connect also allows you to export the test scores to most major electronic gradebook programs.

If you are building a customized interface for a specific application, contact Apperson for documentation on communication specifications.



## Calibrating DataLink™ 1200

To ensure consistent and accurate pencil mark recognition, your scanner should be calibrated annually or after every 7,500 sheets processed, whichever ever comes first. A Calibration Sheet form 74290 has been provided with your scanner for this purpose. Please keep the calibration sheet in a convenient and memorable location for easy retrieval as needed.

To determine how many sheets have been processed since last calibration, press the “**Summary Display**” button 3 times. The display window will show how many sheets have been scanned since the previous calibration.

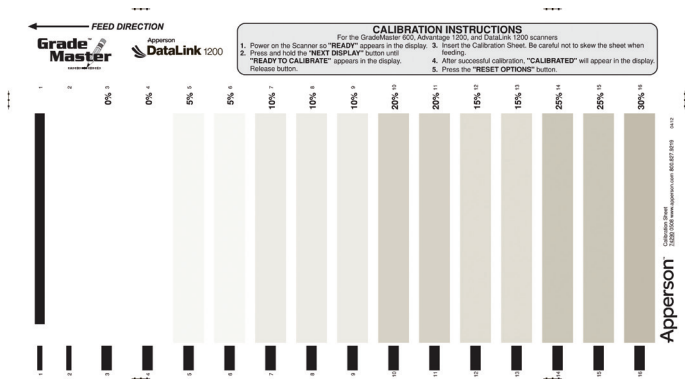
If 7,500 sheets have been processed since your last calibration the message below will appear on your display window whenever the scanner is powered on. This message will no longer display after the scanner has been calibrated

READY: RECOMMEND  
CALIBRATION SOON

If you are experiencing irregular test scoring, take corrective action by calibrating the scanner. In most cases this will resolve the problem. We recommend cleaning the scanner read sensors prior to calibration (refer to page 20).

To calibrate the your scanner, follow the instructions printed on the calibration sheet.

## Calibration Sheet



Check out our Learning Center to see live action videos on how to calibrate your scanner. View our online tutorials at [www.apperson.com](http://www.apperson.com)



## Cleaning the Read Sensors and Clearing Paper Path

Paper dust or erasure debris can interfere with normal operation of the read sensors. If you are experiencing inconsistent scoring or a blocked paper path, take the following steps to correct the problem. After cleaning, always calibrate the scanner (refer to page 18).

### Removing Cover Assembly

1. Unscrew the thumbscrew on the backside of the scanner (Fig. 1).
2. Remove the cover assembly from the back chassis.

ived, including interference that may cause undesired  
/DC Power Supply Only —  
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Fig. 1



**Fig. 2**



**Fig. 3**

## Cleaning the Scanner

1. Using a slightly damp paper towel clean any paper dust or ink spray on the back chassis (Fig. 2, pg. 21).
2. Use canned air spray to clear any dust particles on the read sensors (Fig. 3).
3. If there is dust build up in the printer slot then remove the print cartridges and clean the slot with an unfolded paperclip (Fig. 4).



**Fig. 4**

*Continued on page 22*



Fig. 5a



Fig. 5b

## Securing the Cover Assembly

1. Insert the tab located at the lower right of the cover into slot in the back chassis and pivot the cover downward and flush (Fig. 5a and 5b, pg. 22)
2. Tighten the thumbscrew (Fig. 1, pg. 20) securely and inspect to ensure the cover is secured flush onto the back chassis.
3. Always calibrate the scanner after cleaning (refer to page 18).

Check out our Learning Center to see live action videos on how to clean and calibrate your scanner. View our online tutorials at [www.apperson.com](http://www.apperson.com)





## Displaying Machine Information

To display information about your scanner, power on the scanner and press the “**Summary Display**” button. Successively pressing “**Summary Display**” will show additional information.

### The following information will be displayed:

- The scanner serial number
- The DataLink 1200 firmware version of your scanner
- The total number of sheets processed
- The number of sheets processed since the last calibration
- The number of sheets processed since the last factory service



## Ordering Supplies

You can order DataLink1200 supplies from Apperson. General supplies available include:

- Standard DataLink answer sheets
- Customized DataLink answer sheets
- Print cartridges
- Serial or USB computer cables
- Calibration sheets

For a detailed description of test answer sheets, ballots, surveys and supporting forms, call your Apperson representative, or visit our web site at [www.apperson.com](http://www.apperson.com).

**DataLink™ 1200 Supplies**

**800.827.9219**

**[www.apperson.com](http://www.apperson.com)**



## Troubleshooting

### Obtaining Service for DataLink™1200

If you are experiencing inconsistent operation or irregularities with the your scanner, try re-calibrating the scanner using the calibration sheet provided with the machine. In many cases a simple calibration will resolve the problem.

Use the following guide to troubleshoot basic operational problems that you have encountered. If you are unable to resolve the problem or have service questions, please call the number below and ask for Technical Support.

*For Service and Repair, call...*

**800.827.9219**

Check out our Learning Center to see live action videos on how to calibrate and troubleshoot your scanner. View our online tutorials at [www.apperson.com](http://www.apperson.com)

## Problems and Solutions

### Poor Print Quality

*Refer to page 14 – Print Cartridge Operations*

1. Remove the print cartridge cover.
2. Remove the print cartridge from the scanner.
3. Gently wipe the silver nozzle plate of the cartridge with a lint free paper towel. Inspect the plate to ensure all dust and lint has been removed.
4. Replace the print cartridge and the print cartridge cover. Make sure the print cartridge cover is securely seated and locks into place.

### Marks are Not Detected

*Refer to page 18 – Calibrating DataLink1200*

Very light or thin pencil marks may not be recognized by the sensors. If the marks are made in ink the scanner will not detect the marks. Mark over the intended marks with a No. 2 pencil. If the marks appear to be valid but are not recognized, try cleaning the read sensors and re-calibrating the scanner.

### Inconsistent Scoring

*Refer to page 18 – Calibrating DataLink1200*

Check the marks that are being scored inconsistently. Make sure the marks are dark and fill in the entire bubble area. Check erasure marks for completeness. If you continue to experience inconsistencies, clean the read sensors and re-calibrate the scanner.

## Paper Jams

*Refer to page 20 – Removing Cover Assembly*

Check the paper path for materials that may be lodged between the plates. If you see an object blocking the pathway, carefully remove it by inserting a stiff sheet of paper through the plates. If you are unable to remove the object, remove the cover assembly.

## Invalid ID Number

*refer to page 18 – Calibrating DataLink1200*

Check the ID number marked by the student for accuracy. An invalid ID number message will appear if a row totals greater than 9. If you receive an invalid ID message for a form that does not have an ID grid, try re-calibrating the scanner.

## Paper Misfed

*refer to page 20 – Removing Cover Assembly*

There may be an object interfering with the paper path which is causing the scan sheet to skew. If there is an object blocking the paper path, carefully remove it with a stiff sheet of paper. If you are unable to remove the object, refer to page 20 to remove the front cover. Always make sure the guide edge of the scan sheet is laying flat in the insertion channel. If scan sheets are fed crooked a paper misfed message will appear. If this error message continues, try re-calibrating the scanner. If this error message persists even though the sheet is being fed properly, you can press the “**Next Display**” button after the error occurs to override the error

*Continued on page 28*

on the next sheet. Pressing “**Next Display**” twice will disable this error for the remaining batch. Take care to insert sheets properly after disabling this error detection.

### **DataLink1200 Will Not Power On**

Check the power supply to ensure it is firmly inserted into the scanner’s power socket and into the electrical outlet. Make sure the power supply is labeled with the DataLink1200 logo. The power supply should be rated as 24 volts DC, 400mA.

### **Rows in Sheet Differs from Key**

*refer to page 18— Calibrating DataLink1200*

This error generally occurs when the student answer sheet does not match the form used as a key. If the answer sheets differ from the key either remark the answer sheets onto forms which match the key or remark the key to match the form used on the answer sheets. If the sheets are identical, erase any extraneous marks made on the answer sheet or the key that appear near the black timing marks on the left edge or the black markings at the top of the sheets. If the problem persists try cleaning the read sensors and re-calibrating the scanner.

### **Motor Runs Continuously**

Power off the scanner by unplugging the power supply. Wait 5 seconds and replug the power supply. If the motor continues to run, call **800.827.9219** and ask for the Technical Support Department.



# FCC Compliance Statement

## FCC Compliance

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

## Industry Canada Regulations

This Class A digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

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