Whitepaper
For Windows®

The Innovative Solution To
Your Data Entry Needs!

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Remark Classic OMR Overview

Optical Mark Recognition (OMR) is a technology for reading data from “fill in the bubble” types of forms. This technology has been used for many years in schools, universities, businesses, government, and other institutions. Remark Classic OMR® is a powerful software package for collecting data from OMR (“fill-in-the-bubble”) forms, such as tests, surveys, assessments, evaluations, and other forms. Once collected, the tests or surveys can be quickly analyzed using the included Remark Quick Stats® package. With a few button clicks you can scan and recognize data from your forms and grade a test or analyze a survey... all in one cost-effective package! The sophisticated test analysis includes the ability to report progress on learning objectives, grade multiple versions of a test, and much more.

Remark Classic OMR works with OMR scanners and forms from companies such as Scantron®, Apperson™, Chatsworth, Sekonic®, DATAWIN, and PDI. The software comes pre-loaded with definitions for many of the popular standard forms in use today. Form definitions for other custom forms can be created using the included template editor functionality. The completed forms are scanned into the software where data can be exported to a number of popular applications for further analysis. Remark Classic OMR also includes Remark Quick Stats, which can grade tests and tabulate surveys, and provides powerful reports with the click of a button.

Traditional OMR vs. Image Scanning

There are two types of scanners for collecting data from fill-in-the-bubble forms: traditional OMR scanners and image scanners. The main difference between the two types of scanning is the hardware with which they work. Remark Classic OMR works with traditional OMR scanners commonly associated with standardized testing, pre-printed forms, and number two pencils. When using traditional OMR products, you use pre-printed forms that are created to very exacting specifications. OMR scanners are specifically designed to read these specialized forms. Remark Classic OMR helps you make the most of this technology by offering a complementary software add-on to both collect your data and analyze your results.

OMR Scanners Directly Supported

Remark Classic OMR is compatible with most popular OMR scanners, including those manufactured by Scantron, Sekonic, Chatsworth Data, DATAWIN, PDI, and Apperson. Click here for more information on supported OMR scanners.
Example Applications & Forms

Remark Classic OMR is used for many different applications and with many types of forms. The software ships with pre-defined templates for many popular standard forms from companies such as Scantron, Apperson, and Chatsworth Data. The product is well suited and widely used for processing tests and assessments, evaluations, surveys, and many other types of forms. Users come from many industries including education (primary and higher education), healthcare, market research, corporate, government, and non-profit organizations.

Forms are typically purchased from a vendor such as Scantron, Apperson, or Chatsworth Data. However, there are software packages, such as Magenta® from DataBlocks®, which can be used to create and print your own forms. Here are a few representative forms that are used with the software.
Using Remark Classic OMR
There are three basic steps to using the software. First, you choose an existing template or create a custom template to tell the software how to interpret the questions on the form. Then, scan the completed forms and proof for exceptions. Finally, run Remark Quick Stats or export your data to the file format of your choice, such as Access, Excel, CSV, SQL Server and many others.

Step 1: Creating a Template (Optional)
The template tells the software how to interpret the questions on a form. Most standard forms already have templates defined in the software so you can simply start scanning your filled in forms. If you want to use a custom form, you use the template creation utility to define a template for your form. The utility takes you through the steps of template creation, from basic layout to advanced options. Options you need to specify for each data area on the form include output data type, output values for each bubble, and whether to include the question in the analysis. Remark Classic OMR also has a database lookup and replace feature. You can connect certain fields from the form to a database, and then look up the scanned data in that database and replace it with another piece of data (or add additional data) from the same database. For instance, if you have a student ID number on your form and a spreadsheet containing the student ID numbers and other information about the students, such as their names, you can read the ID from the form and replace the ID with the student name in your data set. This way the reports will show the student name rather than an ID number.
**Step 2: Scanning Pages in the Data Center**
The Remark Classic OMR software reads forms using an OMR scanner. When processing forms, the software can optionally use a database lookup feature to add external information to your data set for more detailed reporting. After reading completed forms, the collected data appear in a spreadsheet-style grid window where any exceptions are color coded and flagged for easy review. Often exceptions are the result of improperly filled in forms such as questions that were not answered (blank responses) and cases where multiple responses are marked when they are not allowed. The software provides a Review Exceptions feature for automatic detection and correction of exception cases. Additionally, you can use speech recognition for correcting exceptions or to simplify entry of qualitative data, such as handwritten comments, using your microphone or headset. If your scanner supports a reject stacker, the pages with exceptions can also be sent to the reject stacker.

**Step 3: Exporting (Saving) and Analyzing Data:** The processed data can be saved to a variety of output file formats, including the following:

<table>
<thead>
<tr>
<th>Formats</th>
<th>Applications Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spreadsheet Formats</td>
<td>Excel, CSV, and Text</td>
</tr>
<tr>
<td>Database Formats</td>
<td>Access, SQL Server, Oracle, dBase, and Paradox</td>
</tr>
<tr>
<td>HTML and XML</td>
<td>Internet or Intranet applications</td>
</tr>
<tr>
<td>Statistical Software</td>
<td>SPSS, Survey Pro, and Statpac</td>
</tr>
<tr>
<td>ODBC</td>
<td>Various relational databases, such as Oracle or SQL Server</td>
</tr>
<tr>
<td>Remark</td>
<td>Format for use within the Remark software</td>
</tr>
<tr>
<td>Custom</td>
<td>Customized text file for virtually any analysis application</td>
</tr>
<tr>
<td>Cloud Storage</td>
<td>Google Drive, Dropbox</td>
</tr>
</tbody>
</table>
Collect and Analyze Data from Your Forms

Email Reports and Data
In addition to exporting data and reports, an email option is available in the Remark Classic OMR Data Center and Remark Quick Stats to email data and reports as attachments. You can use Microsoft Outlook® or use Remark’s built-in email client in conjunction with your SMTP server to share information quickly and easily. Student based reports can be emailed directly to students or parents.

Remark Quick Stats
Remark Quick Stats is a built-in analysis package that can be used to grade tests and tabulate surveys. The software provides many standard reports. Reports can be customized to include user-specified titles, headers, colors, fonts, and graphics.

Remark Quick Stats also creates report batches, allowing you to display, print, and export multiple reports in a single operation with just a few mouse clicks. Report batches can automatically filter your reports on up to three pieces of information from your data set. Separate reports are created for each unique value in your data set, making it easy to get relevant information to the right individuals efficiently.

Test Grading Highlights:
- **Quick and easy test grading.** Using Quick Grade, simply scan the answer key with the test answer sheets, click a button, and reports are produced.
- **Sophisticated test grading.** Use Advanced Grade to set up an answer key with multiple correct answers, select a grade scale, enter question points, set benchmark scores for comparison against established benchmarks, and other grading information for your test.
- **Learning objectives.** Used to insert test concepts and measure against mandated standards. Individual grade scales can be added to each learning objective.
- **Multiple test versions.** Supports multiple versions of a test with multiple answer keys.
- **Scaled scores.** Advanced Grade supports "scaling" a score, whereby you look up grades in an external table (based on total score, percent score, or percentile) and then apply the scaled score from the external file. Provides the ultimate in customized grading.
- **Partial credit.** Awards partial credit for test questions.
- **Grade export.** Supports various gradebooks, including a custom gradebook for exporting into virtually any gradebook or learning management system.
- **Achievement by group.** Reports are available to compare achievement across various groups of students.
- **Changed answer report.** Tracks changes made to answers, both on the form and after scanning, to pinpoint any possible data inconsistencies.
- **Statistics calculated:**
  - For each item Remark Quick Stats calculates: Mean, Variance, Standard Deviation, Standard Error, Min, Max, Range, Median, Skewness, Kurtosis, T-Value, Percentiles, Confidence Intervals, Percent Correct, Point Biserial Correlation
  - For each answer choice Remark Quick Stats calculates: Frequencies, Percentages, Point Biserial
  - For each student Remark Quick Stats calculates: Total score, Raw score, Grade, Dev. IQ, Number correct, incorrect, and unanswered
    - For the test Remark Quick Stats calculates: Number of graded tests and items, Max, Min, Median, Range, Percentile scores, Mean, Variance, Standard Deviation, Confidence Intervals (1,5,95,99%), KR 20, KR21, Coefficient (Cronbach) Alpha.
**Test Grading Reports**

**Test Analysis Report** - Provides overall summary information and points out red flags in a test, such as questions where a distractor is chosen more than the correct answer, students showing very strong comparisons of correct/incorrect answers, and test questions with a poor correlation.

**Student Statistics Report** - Used to view class performance for tests. Optionally shows detailed information about learning objectives, objective questions, and subjective questions. Great report for quickly seeing how students are performing and whether they are meeting standards.

**Comparative Grade Report** - Provides a comparison of information within the data set. For example you can compare schools, instructors, classes, gender, etc.

**Class Frequency Distribution Report** - Provides a distribution of the grades for an entire class and test. This report is useful for gaining a quick grasp on class performance.

**Student Response Report** - Provides a graphical view of each student on the test and each question on the test in a matrix style. This report allows you to quickly see performance on both a student and question level.

**Demographic Grade Report** - Provides a breakdown of student performance based on demographic information. This report is particularly effective when trying to ensure that all subgroups of students are making adequate progress.

**Class Learning Objectives Report** - Provides information about the performance of the class on the entire test and on each learning objective. This report is helpful to view the class’s progress towards mastering standards specified in the learning objectives.

**Student Achievement Report** - Provides the ability to evaluate students’ grades in terms of whether they achieved the benchmark or learning objectives defined for the test. This report allows you to quickly see who has and has not mastered the information.

**Student Grade Report** - Provides complete test information for each student that can be handed back to a student, parent, teacher, or other stakeholder.

**Student Response Similarities Report** - Provides a display of students who have similar responses on the test. This report is useful when concerned that students might be cheating.

**Item Analysis Reports** - Provides answer choice frequency information on a question-by-question basis, which for test grading is useful for question validity. Using the Item Analysis reports, you can see how students responded to the question. If problems are found (e.g., the question was poorly worded), you can throw out the question or allow additional responses to be considered correct without rescanning test forms.

**Condensed Test Report** - Provides answer choice frequency information on a question by question basis, including distractor and class score information. This report is a great way to see question and class performance at a glance.

**Test Statistics Report** - Provides basic statistics on the test as a whole and is useful for gaining a quick look at performance and basic statistical analysis.

**Changed Answer Reports** - Provides a breakdown of questions with answers that have been changed by erasing responses or making changes to the data grid. This report can be generated by students or by questions.
Collect and Analyze Data from Your Forms

Survey Tabulation Highlights:

- **Quick and easy tabulation.** Using Quick Survey, generate standard reports in one click.
- **Customizable reporting.** Use Advanced Survey to customize the survey analysis process, including creating groups of like questions to compare means and measure against established benchmarks, as well as weight importance of questions.
- **Data comparisons.** Compare survey responses across subsets of data.
- **The ability to exclude NA (non-applicable) responses:** If your answer choices include a non-applicable option (e.g., Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree, NA) and someone chooses NA, you can exclude it from the statistics, but still be able to see how many respondents chose the NA response.
- **Handwritten comments.** A Response Report displays all of the handwritten comments (entered manually) on one easy to read report.

**Statistics calculated:**
- For each item Remark Quick Stats calculates: Mean, Variance, Standard Deviation, Standard Error, Min, Max, Range, Median, Skewness, Kurtosis, T-Value, Percentiles, Confidence Intervals
- For each answer choice Remark Quick Stats calculates: Frequencies, Percentages, Valid Percent
- Crosstabs

Survey Reports:

- **Item Analysis Report** - Provides answer choice frequency information on a question-by-question basis. (There are five different versions of this report to meet your needs, including one that integrates handwritten comments with the item analysis.)
- **Integrated Item Analysis Report** - Provides easy distribution and viewing of both quantitative data and handwritten responses in one streamlined report.
- **Item Statistics Report** - Displays descriptive statistical information for each question. The statistics are displayed in groups, allowing you to show or hide the groups you need.
- **Crosstabulation Report** - Provides information about two questions within one chart, allowing you to see a breakdown of responses for two questions simultaneously.
- **Comparative Item Report** - Compares performance for various demographics included in the survey. Reports individual question information based on questions from the data (e.g., in the case of a course evaluation, you could report on instructors, courses, etc.).
- **Question Mean Report** - Provides the mean for every question tabulated, allowing you to quickly see individual question performance.
- **Analysis Group Report** - Provides overall analysis of each question, along with analysis of questions that are placed in groups. Question groups can be used to view analysis of related questions (e.g., if processing a course evaluation survey, you can view all questions related to the instructor as a question group).
- **Response Report** - Typically used to provide responses from open-ended questions.
- **Ballot Response Report** - Streamlines the tabulation of ballot style responses. It tabulates and displays the choices in order from highest to lowest selection.
Remark Classic OMR Main Features:

**Forms Supported**

⇒ Forms commonly scanned with Remark Classic OMR include tests, assessments, surveys, research studies, evaluations, inventory, field testing, and many others!
⇒ Processes many standard OMR forms out of the box.
⇒ Provides ability to create software definitions (templates) to scan custom forms.
⇒ Processes double-sided and multi-page forms.

**Scanning**

⇒ Works with common OMR scanners from Scantron, Chatsworth Data, Sekonic, DATAWIN, and Apperson.
⇒ Provides accurate optical mark recognition for bubble sheets.
⇒ Supports barcode reader on Scantron and Sekonic OMR scanners.
⇒ Prints user-specified information on scanned sheets when used in conjunction with a Scantron or Sekonic scanner containing a printer (e.g. date, time, record number).
⇒ Scan and Grade option allows you to print a grade on pages as they are scanned when using a scanner with a printer.
⇒ Supports SelfScore mode on Scantron OMR scanners so that grading can occur on the scanner as forms are scanned.
⇒ Supports select stacker to reject pages with errors on them and send them to the select stacker for review.
⇒ Allows for the correction of exceptions while scanning pages or as an automated post-scanning task.
⇒ Input field type allows for data entry of handwritten data.
⇒ Processes batch header sheets that provide descriptive information about the forms being scanned (e.g. teacher and class name on a batch of tests).
⇒ Validates data against an external database to 1) confirm that recognized data from a field appear in a particular database field and 2) bring in external data to assist with detailed reporting.
⇒ Tracks changes made to data files for the utmost in security.
⇒ Emails data directly to constituents as soon as it is collected.

**Analysis and Data Export**

⇒ Produces output that can be used with most popular spreadsheet, database, survey design, and statistical programs.
⇒ Includes Remark Quick Stats, a built-in analysis component for grading tests and tabulating surveys. Provides full featured reports.
⇒ Automatically filters data and generates separate reports determined by fields you select.
⇒ Analysis results can be saved to PDF, XLSX, HTML, Text, and RTF file formats, as well as right to Google Drive or Dropbox.
⇒ Email data and reports as attachments with Remark’s built-in email client in conjunction with your SMTP server or Microsoft Outlook®.
Minimum System Requirements

- Personal computer with 2 GHz or faster processor
- Windows® 32-bit and 64-bit operating systems: Windows 8.1, Windows 10 (Note: SP stands for "Service Pack")*
- .NET 4.6.1 (or higher) framework
- 2 GB RAM
- 1 GB free fixed disk space
- Screen/monitor resolution of 1024x768 or higher and at least 32-bit color
- Supported OMR scanner
- Mouse or other pointing device

Recommended optional requirements

- Windows-supported printer
- PDF viewer required to view installed documentation
- Microphone for speech recognition
- Microsoft Outlook 2007 or greater can be used for email functionality; if not present an internal Remark Classic OMR email client (using your SMTP server) may be used

*The software uses activation for license regulation. If you choose to install on a virtual machine (VM), due to the nature of how virtual environments behave, activation is required every time the software is run.

Who Uses Remark Classic OMR?

⇒ **Education Professionals** for student testing, institutional research, or community surveys
⇒ **Marketing Professionals** for consumer surveys and customer satisfaction
⇒ **Psychology Professionals** for testing, assessments, and evaluations
⇒ **Government Agencies** for data compilation from internal and external sources
⇒ **Healthcare Industry** for customer surveys, patient data, and research
⇒ **Pharmaceutical Companies** for clinical trials and product evaluation
⇒ **Police Departments** for racial profiling compliance and community surveys
⇒ **Computer Professionals** for combination or integration with another software package
⇒ **Human Resource Departments** for employee surveys, time sheets, and evaluations
⇒ **Training Professionals** for course and instructor evaluations
⇒ **And Many More**
Collect and Analyze Data from Your Forms

About Gravic, Inc.

Gravic, Inc. is a privately-held corporation located in Malvern, PA, about ten miles (16km) west of Philadelphia, PA USA. We make a number of computer software products for data collection, transformation and distribution uses. Customers for our products include schools (Primary and Higher Education), hospitals, large and small businesses, healthcare, government agencies, market researchers, trainers, meeting planners, brokerages, travel agencies, stock exchanges, electric utilities, and telcos.

The Remark Products Group of Gravic, Inc. was founded as Principia Products in 1991. We have worked in the area of image processing and pattern recognition since the early 1980’s. Our early work in OCR and ICR sold thousands of licenses. In 1991, we began to focus on OMR (optical mark recognition) with image scanners (Remark Office OMR® 1.0 release). Our strength is in our ability to innovate and develop solutions for common problems, while maintaining easy-to-use and affordable software.

In 2001, we renamed Principia Products, Inc. to Gravic, Inc. and began a merger of our other entities (ITI and Compucon Services). We completed the merger in 2003 and now all product groups are run by common management.

Please visit our website to learn more about our company, values and purpose.

Helpful links

Our website includes many resources that can help you learn the product. The following are some useful links for new users of Remark Classic OMR.

- Scanner Information
- Knowledgebase

Need a live voice?

Call us: 1.800.858.0860 or 1.610.647.7850

Thank you for your interest in Remark Classic OMR