



EzGrader Stamp Grading System™

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Welcome !

Thank You for purchasing EzGrader v3. Welcome to the next big step in the age of computerized philately. We sincerely believe that EzGrader will provide you with a new way of looking at your collection, and enhancing your collecting experience.

The capabilities of EzGrader are totally unprecedented. We are excited by the opportunity to bring them to you, and are anxious to hear about your experiences with EzGrader. Please send us your suggestions, questions and comments at the address on the first page. EzGrader is a work in progress, so if you have any requests or can suggest new features, 'it would be nice to have', please let us know and we will try to incorporate any useful ideas into future releases.

If you like EzGrader, please tell your friends about us. Dealer inquiries are welcome. If you find any errors or omissions in the documentation, please let us know. We're here to help. Please note our E-mail address is ezgraderv3@gmail.com . It is the fastest & easiest way to get help if you need it (other than Reading the Manual). Our web site is located at

<https://ezstamp.com/>

<https://www.stamptools.com/>

You can also contact us at (705) 254-6201

***** EzGrader is for Personal use only.** NO commercial use is permitted unless you have purchased a commercial license from SoftPro. **You may not sell EzGrader Certificates.** You may provide an EzGrader Certificate with the sale of your stamp, but *selling certificates or providing a certification service using EzGrader is strictly prohibited & will invalidate your license permanently.*

EzGrader Installation

EzGrader includes an automatic Windows Installation program, which makes installation quick and easy (less than one minute on most systems). Simply run the ..setup.exe from the downloaded file or from the CD/USB

You may install EzGrader on any drive (C, D , E, etc). While you may install to any directory, it is recommended that you use the default directory suggested during installation (**C:\SoftPro2010\EzGraderV3**). This is where the program and support files will be copied. Then click on '**OK**' to proceed. Follow the on screen instructions. When the installer is finished, you will be notified. A shortcut will be placed on your desktop for your convenience. At this point EzGrader is installed on your system and the installer will start EzGrader for you. To begin, just open an image file and have fun!

Follow the On Screen Instructions and **Please Register !**

**** All installations will require a two-step activation process beginning with a unique password that was provided to you. Please do not disclose it to anyone. You will then register your copy & we will send you a unique Product ID (PID) that is machine specific. EzGrader may only be used on one PC per license.**

REMEMBER TO MAIL/eMail IN YOUR REGISTRATION FORM. THIS WILL LET US NOTIFY YOU OF FUTURE UPGRADES AND SPECIAL OFFERS.

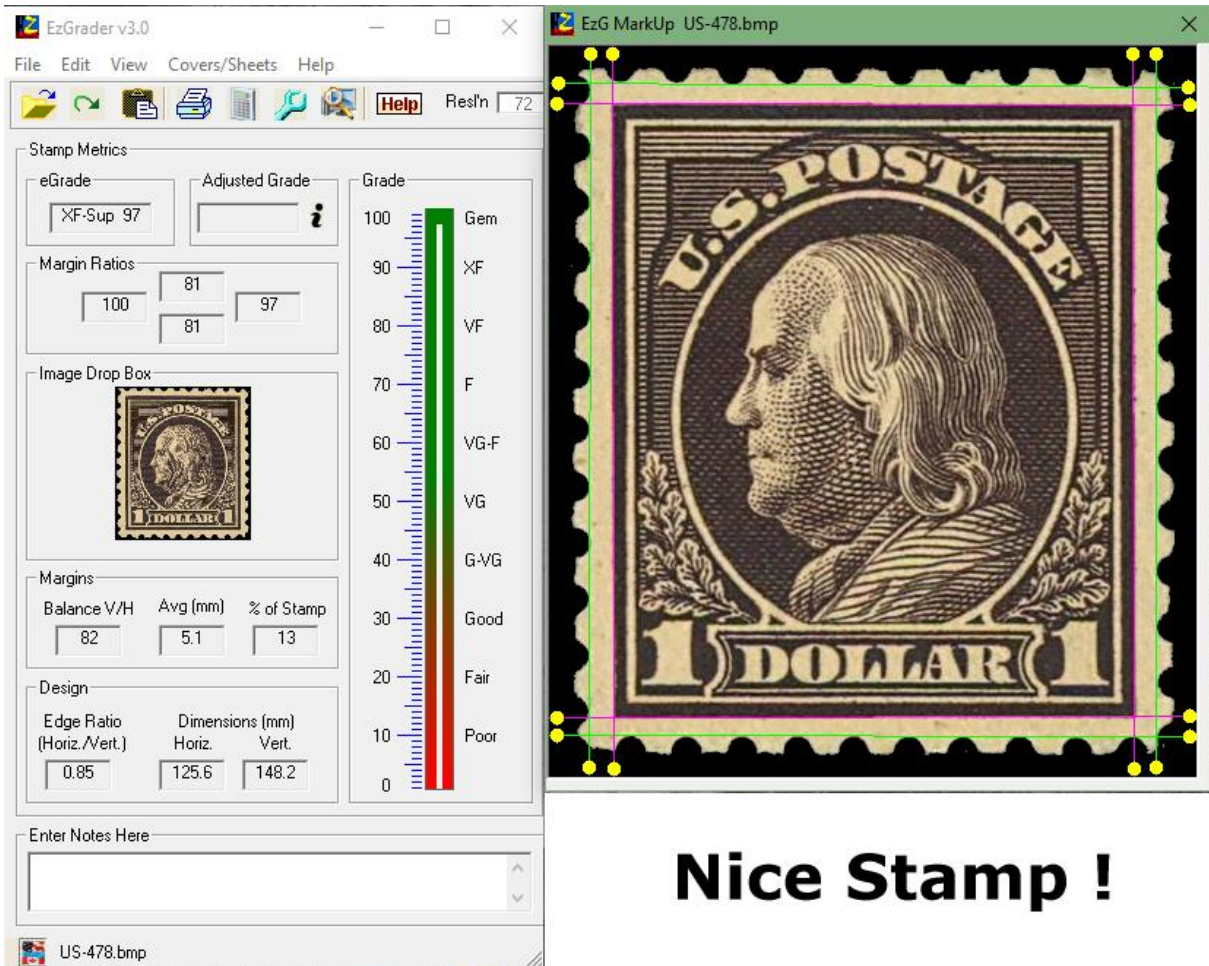
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Quick Start Guide & Quick Tips

EzGrader measures digitized stamp images. It does not measure the stamp itself. Simply start EzGrader, open the stamp image you want to measure (must be in BMP or JPG format), and EzGrader will statistically analyze the image and show you the results of the computations (see images below):



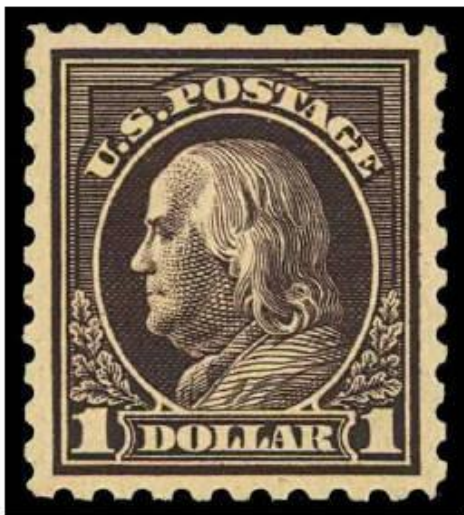
Nice Stamp !

EzGrader graphically shows you how it came to its results as well as presenting you with the results in an easy to understand format. There is a lot of useful information that can help you interpret the results and make informed decisions about purchasing stamps. This manual will highlight some of this important information & how to use it.

You can even print a Certificate identifying the stamp with the measurements

eGrade[™]

Certificate of Measurement & Grading



Margins

Balance **84** V/H
Size (% of Stamp) **14**
Average (mm) **1.2**

Ratios:

Top: 84
Left: 100 Right: 97
Bottom: 81

Dimensions

Edge Ratio (Horiz/Vert) 00.85
Horizontal (mm) 30.10
Vertical (mm) 35.50

Centering

Horizontal **97** Offset to Right
Vertical **96** Offset to Bottom

eGrade[™] **XF-Sup 96**

Adjusted Grade

Grade Adjustments

User Notes

Image Resolution: 300

Certificate No. 0000008
November 08, 2019

This Copy of EzGrader[™]
Registered to:
Marios Theodossiou

Source Image: Test_Image4.jpg



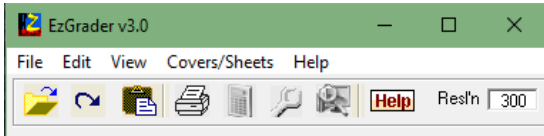
Version: 3.0

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www.ezstamp.com

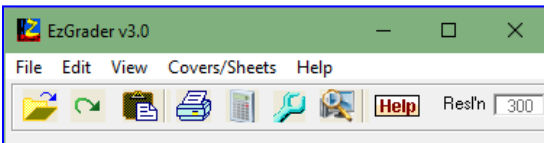
1. File Menu

First Look at Startup



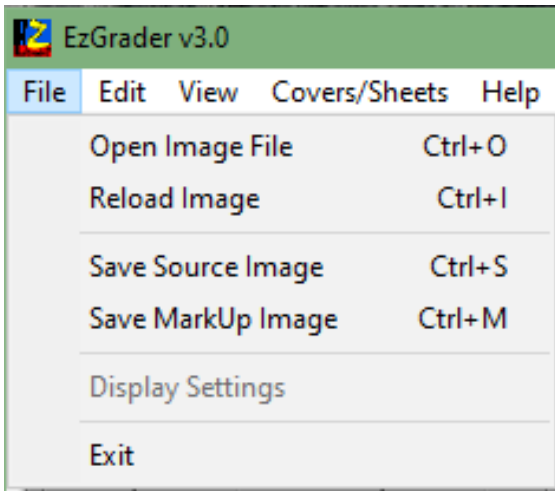
When you begin, you will see EzGrader's menu and toolbar:

At this point, all you can do is load an image, or view this manual. EzGrader accepts images in the BMP or JPG format only. To load an image file, either click on the folder icon, or select File/Open Image File from the menu. You can also paste an image from the clipboard. Select a BMP or JPG file, and click Open.



As shown further down in this document, EzGrader's window is then updated to show you the specific measurements of the stamp image.

The menu and toolbar change as well. We'll now look at each of the additional options available to you from each of the Menu Items.



Open Image File [Ctrl+O]

Standard windows file selection.



Reload Image [Ctrl+I]

This option reloads the current image & re-measures it. Clipboard images can also be reloaded in this way, but if you edit a clipboard image in an image editor, you MUST re-copy it to the Windows clipboard otherwise the original clipboard image will be used. Very useful after a touch-up in an



image editor.

Save Source Image [Ctrl+S]

Allows you to save the current Raw image to your PC.

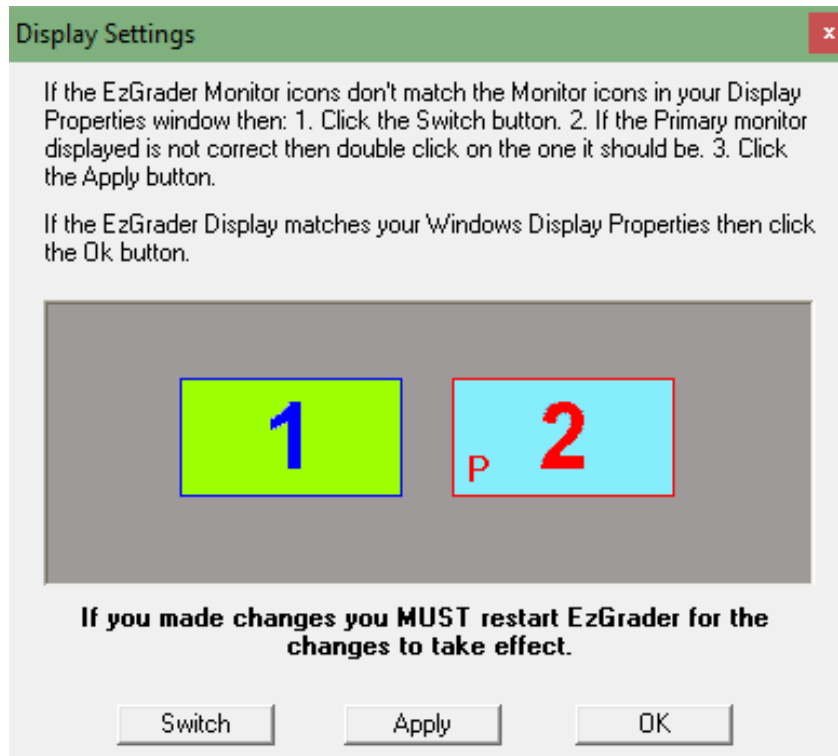
Save Markup Image [Ctrl+M]

Allows you to save the current **MarkUp** image (the image with the detected lines of measurement. ie: the Graded Image) to your PC for reference .

Source & **MarkUp** images are also automatically placed on the printed certificate.

Display Settings

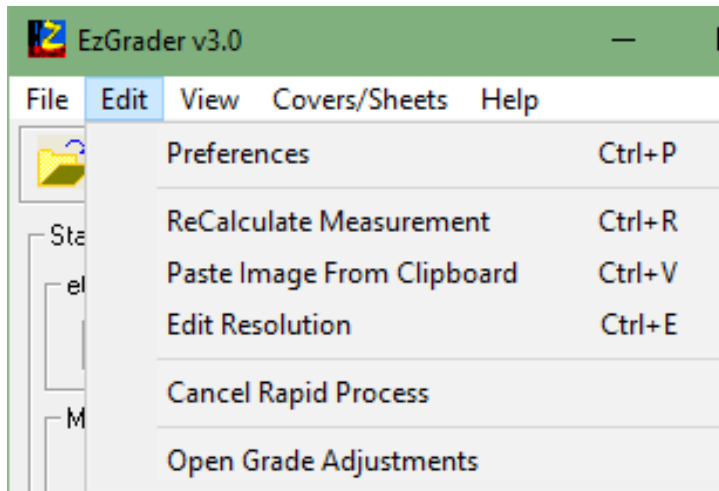
This option is only available with systems having dual monitors.



This must be done to assign the proper monitor setup so you can move EzGrader's windows accordingly. For example, you can have the main EzGrader windows on Monitor 1 & the graded/Markup window on the second monitor. Works well for large images. Pay attention to set the PRIMARY monitor correctly (the one with the red P in the bottom left corner).

Exit This closes the currently opened image & exits EzGrader.

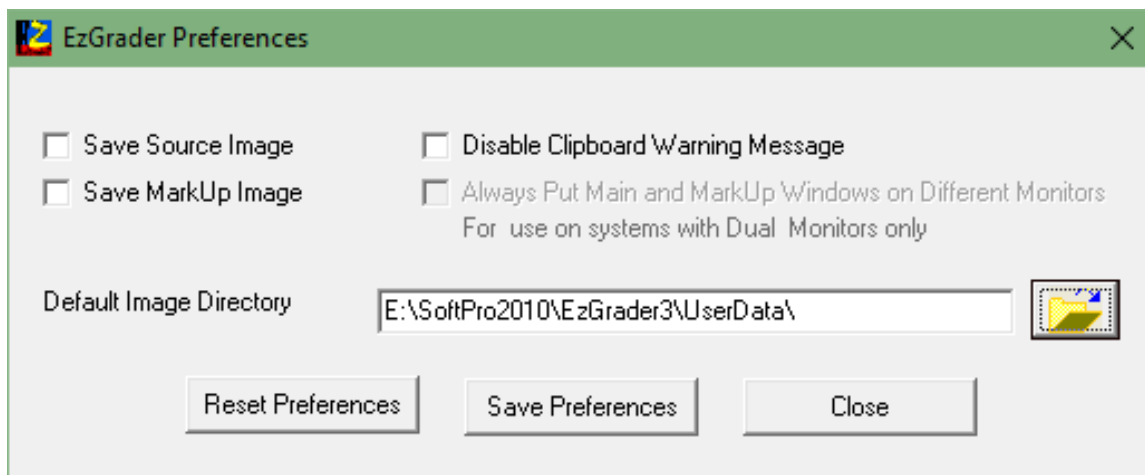
2. Edit Menu



Preferences [Ctrl+P] Allows you to maintain your default choices for EzGrader settings:

Save Source Image

Checking this box will **AUTOMATICALLY** save **every** image you grade to the Default Image Folder (as set in preferences) as a BMP file.

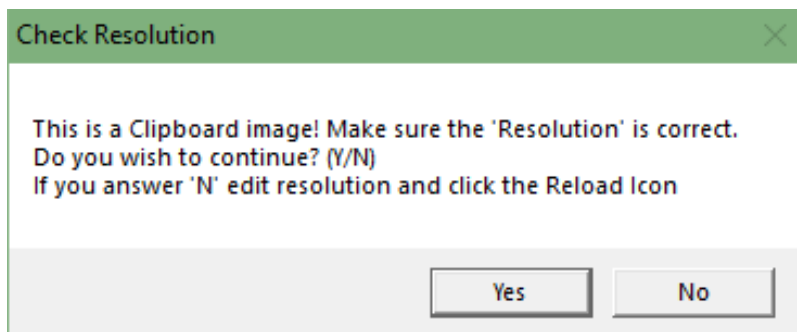


Please use with caution as you can easily use large amounts of disk space depending on the number of images you grade. It is up to you to monitor disk space and clean up the folder and delete unwanted images.

Save MarkUp Image

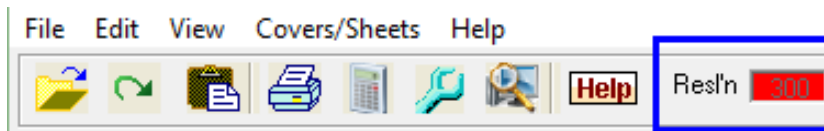
Same as above, but will save a copy of the **MarkUp** image. Same precautions as above apply.

Disable Clipboard Warning Message



When pasting an image from the Clipboard, a message will Pop up to warn you to Set the resolution as needed (the default is

300dpi). If the resolution is not correct, any physical measurements reported in mm will be incorrect. All other calculations will be correct. The Resolution of the scan **MUST** be correct for physical dimension measurements to be calculated correctly. This warning can be disabled by checking this box. If EzGrader **cannot** determine the resolution of the image provided, you will see the Resolution field Highlighted in **red** as shown below. This is only a VISUAL cue for you to ensure the resolution setting is correct. This will also be reflected on the printed certificate and resolutions will be noted as N/A (not available). ** Please note that Internet images can be manipulated and altered in many ways & there is no reliable way for EzGrader to determine the resolution of internet images.



Always Put Main & MarkUp Windows on Different Monitors

This option is only for Use on systems with Dual monitors available. With this option enabled, the markup Window will always be placed on the opposite monitor to where the EzGrader Main window is on. This is useful for very tall or very wide images.

Default Image Directory

Upon startup, EzGrader will look in this folder that you specify by default, for your image files, instead of the main EzGrader program folder. You can set this to any folder on your system. On first startup, this field is blank. We suggest you set it to the *C:\Softpro2010\EzGrader3\UserData* folder for convenience (which is the default install location for EzGrader), but this is not a requirement.

Save Preferences

Make your changes in the Preferences window, and click Save Preferences to save your changes or Close to exit without saving.

Open Grade Adjustments [or Click on the 'i' on the main window]

This will allow you to enter any defects or exceptions regarding your stamp that will affect its overall grade. Refer to [How Do I.](#) for details.

ReCalculate Measurement [Ctrl+R]



This will perform a recalculation of the stamp measurements. It should be used after you manually adjust the lines on the Markup Window. This is the same as clicking on the above icon located on the toolbar

Paste Image From Clipboard [Ctrl+V]



This will paste a valid image from the clipboard. This is the same as clicking on the icon above located on the toolbar

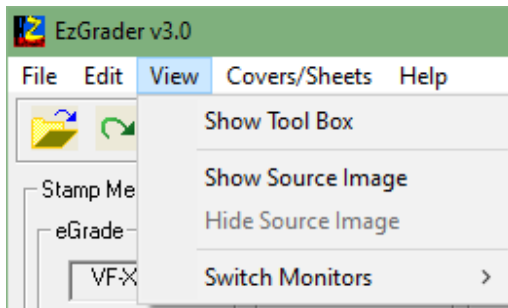
Edit Resolution [Ctrl+E]

Specify the Image scan resolution in dpi that you normally use (required for measuring stamp dimensions and margins). Refer to the '**Disable Clipboard Warning Message**' section above for important details. This only needs to be changed if the resolution cannot be automatically determined by EzGrader or is displayed incorrectly. For accurate physical measurements, it is important to properly set the resolution. Images copied to the clipboard (especially if you have copied images from the internet), usually it is not possible to know the resolution that an image was scanned at. Internet images can be altered in many ways, such as enlarged, shrunk, stretched etc. Internet images can be graded correctly, but the physical dimensions reported (ie in mm) can be inaccurate due to image manipulation and unknown resolutions.

Cancel Rapid Process

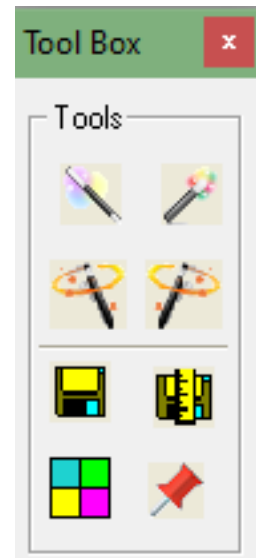
One of the most powerful new features in this version of EzGrader is the ability to load many images at once to be graded. Once a Rapid Process has been initiated, you may cancel it using this menu option. The Rapid Process is described in detail further in this document.

3. View Menu



Show Tool Box

Shows the Tool box & it's associated options . Click the **red X** to close the Tool Box. Detailed explanations for each tool is explained further in this document.



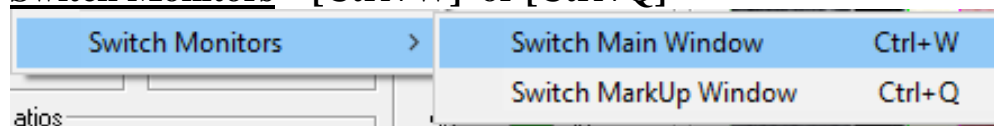
Show Source Image

This will show the raw source image in its original size and not zoomed (without lines or balls).

Hide Source Image

This will Hide the source image if one is opened (without lines or balls)

Switch Monitors [Ctrl+W] or [Ctrl+Q]

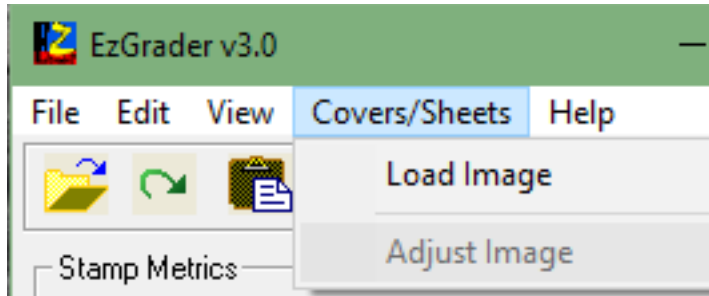


[**Ctrl+W**] This option will only be available for systems with dual monitors. This option if used, will switch the EzGrader main Screen between the two monitors. This can be especially helpful if you use two monitors and switch one monitor off. EzGrader remembers it's last position and if it is on the 2nd monitor & you switch off the 2nd monitor, the next time you start EzGrader, it will not be visible, until you use this option to switch it back.

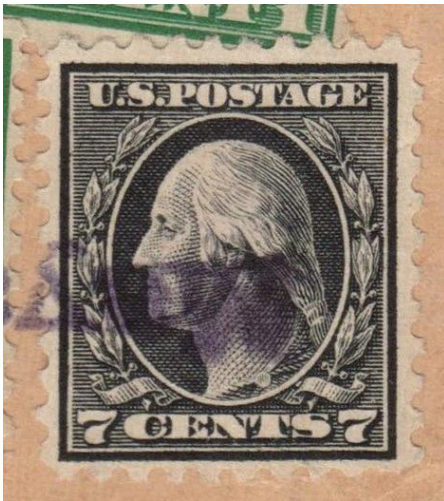
Please Note: If 'Always Put Main and Markup ...' is checked in the Preferences, and you switch Main Window, the Markup will not automatically switch. If the Recalculate Icon is clicked the markup will be placed on the other window.

[**Ctrl+Q**] Similarly, this option will switch the Markup window between the two monitors

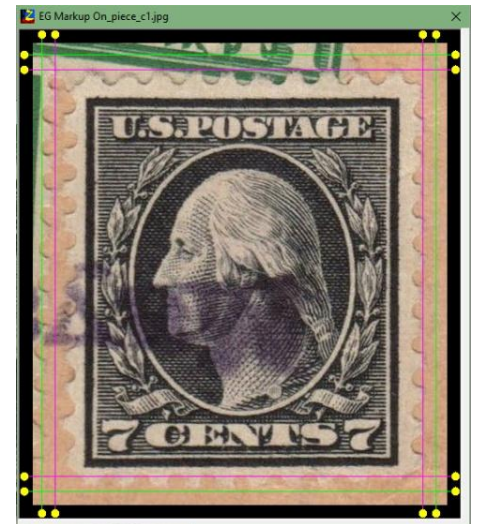
4. Covers/Sheets



Load Image



This method of loading images is used to load stamps that are still on Cover/Piece (ie they are still on paper). If you load such an image directly, EzGrader will not be able to measure it. Loading it this way will allow loading the image & EzGrader will **NOT** attempt to grade it automatically. It will draw the balls & lines near the edges of the design & let you manually



adjust the balls & lines so you can grade any stamp that is on paper in this way. This method can also be used for Sheets & Blocks of stamps



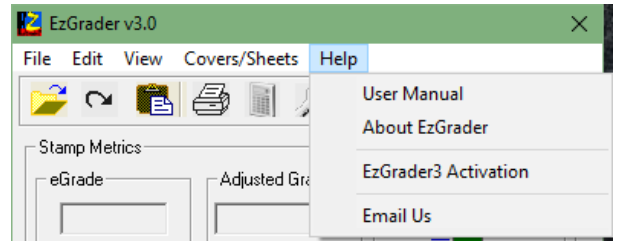
Adjust Image

This allows you to alter the color and intensity of the image to allow easier placement of the balls & lines. In other words, it will make the design stand out better so you can see where to place the lines. The adjust image tool has a wide range of colors available by using the slider. Select the one that is the best. This is very useful if the paper the stamp is adhered to is similar in color to the perf edges of the stamps. Adjusting this image allows us to change the backing color to violet to better see the perf edges.

5. Help Menu

User Manual

Launches Adobe Reader & displays this manual on your screen.



About EzGrader



Displays the EzGrader Version and Contact information. A hot-link to our website & email is available from here as well.

EzGrader Activation



Once EzGrader is installed, you will need to activate it by bringing up the following screen.

EzGrader is licensed per PC & the codes we provide you will ONLY work for the PC that it was issued to. You can install on two PC's, but you must first deactivate the current license and then install on the second PC and activate it there. You may not have two concurrent running versions of EzGrader unless you have purchased two separate licenses. EzGrader requires a **TWO STEP activation process**

to be fully activated for use.. The first step is to enter the *Registration code* which you will receive upon purchase. Then you must enter your Name, Tel # & email address then click one of the three buttons to send us the information we will need to create a personal product ID (**PID**) that is unique to you. You can *Print & Mail, Request ID by Phone* or **Request via eMail**. The **PID** we send you must be kept by you and recorded. It will be the **ONLY** way that you can activate/re-activate on your PC.

Clicking *Request by Email* will launch your email program so you can send us the information. If your email is not launched, select *Print & Mail*. This will place the required information into Notepad. Then simply start your email program manually and Copy & Paste the contents of the information from Notepad into the body of the email, (Ctrl+C and then Ctrl+V) and Send your email to us at *ezgraderv3@gmail.com* with a Subject of: *EzGrader3 Registration*.

Alternatively, you can phone in the information or send it via regular mail. Once we have the information, we will provide you the PID so that you can complete the EzGrader Activation process.

Registration by **eMail** will be the quickest way to activate your copy.

Email Us

This will launch your default email client & send an email to us at staff@ezstamp.com .

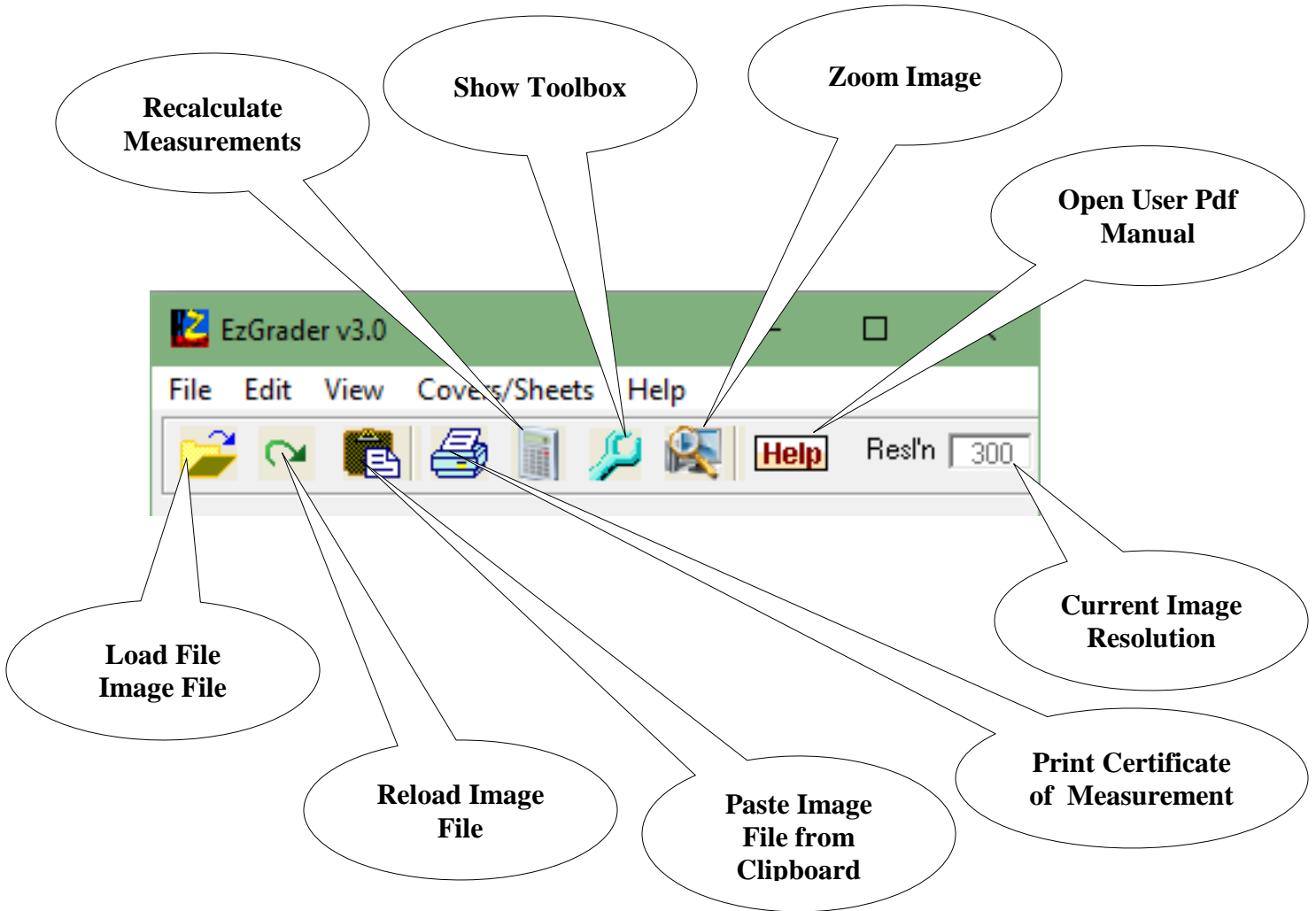
If you have not set your Default email client, you can do so this way. Go to **Control Panel**, click on 'Programs or Apps' Category. Select the 'Default Programs or Apps' option & click on it. You will see different options to set default programs for specific files. Select **Email**, and pick the Email program you want to associate to.

Using EzGrader v3

The following sections of the manual will focus on showing you how to best use EzGrader and all its features and most importantly, how to best interpret the results.

The Toolbar

The icons on the toolbar provide a one-click alternative to the Menu for using the most common commands:



For additional convenience, many of the most used functions can be accessed from EzGrader's menu system.

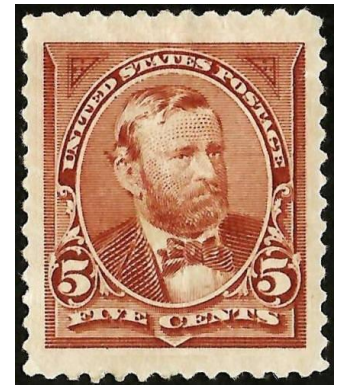
The Windows Task Bar

Each of the Windows created by EzGrader has its own button on the Windows Task Bar. Clicking a button brings that window to the front.



Loading an Image to Grade

There are as many different stamp designs, as there are ways to put an image on paper. As soon as you load a stamp image, EzGrader measures it using its internal routines to determine the best method. It assumes the stamp has the most common features, perforated edges with solid, straight design edges, scanned against a black background, like the one shown on the right.



If the stamp has different features, EzGrader can miss them. Examples of problematic stamp types are shown below: These stamps have no definable borders and it is not possible to grade these types of stamps. We refer to them as Freeform (no definable edges whatsoever).



Other difficult stamps can be ones with heavy cancels, perfs cutting into the design or odd shaped stamps such as these



Perfs Cut Design



Partial



Free Form



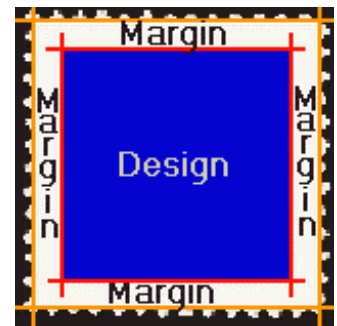
Imperf, Ornate

As a final note, there are stamp designs beyond the abilities of EzGrader. Lack of symmetry, poor printing, indistinct colors or bad perforations can all make it difficult to identify features adequately and automatically. Above all, the scanned image of your stamp is of great importance. EzGrader is a tool to evaluate your stamps, so while it will do its best to give you accurate measurements, it's up to you to make sure the results make sense, and interpret them appropriately. But don't give up. EzGrader allows you to manually adjust the lines for these types of stamps so you can grade almost any stamp.

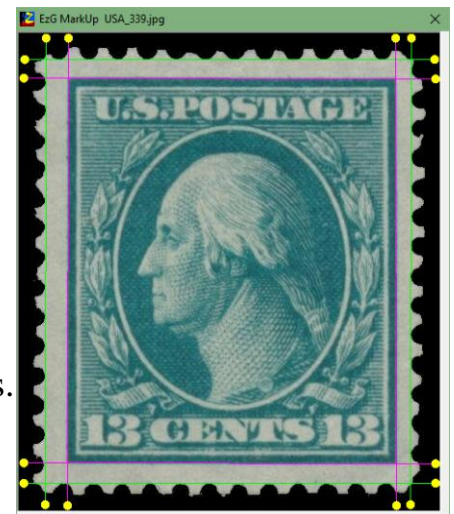
The Markup Window

When EzGrader measures a stamp image, it finds and measures the *Margins*. It does so by looking for specific features. For each type of feature, EzGrader finds the optimum set of points or pixels to use in its calculations. An equation defining the feature is then computed from these pixels. These equations are then used to compute the various components of the **eGrade**.

In order for EzGrader to accurately measure a stamp, precise definitions for the parts of a stamp are needed. For reference, these are the *Stamp* features recognized by EzGrader:



- Background** Dark area around the *Stamp*
- Design** Printed area of the *Stamp*
- Frame Edge** Outside edge of the *Design*
- Stamp Edge** Physical edge of the stamp, where the paper ends, disregarding *Perf Tips*
- Margin** Area between a *Frame Edge* and its corresponding *Stamp Edge*.
- Perforations** Places where paper was removed for separation of adjacent stamps – the holes.
- Perf Tips** Paper left between the *Perforations*.



EzGrader reports its findings in two ways. The main window shows the **eGrade** and other computed statistics, and the Grade Ruler displays them graphically.

The edges selected by EzGrader are shown in **the markup window**.

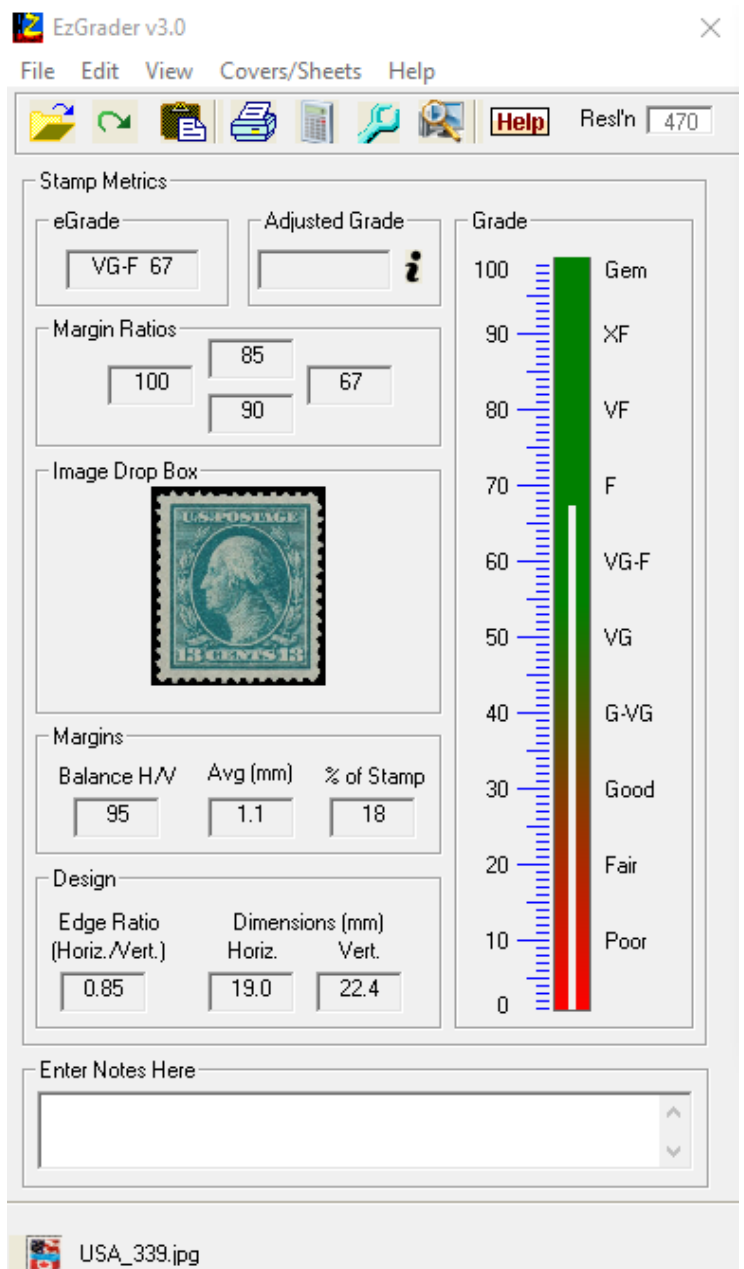
Displaying the markup window serves several purposes. Foremost, you see the stamp and how it was measured. You see it objectively, without distraction or distortion.



Human perception and memory are notoriously unreliable. What we see is often

distorted by a multitude of factors, from where we are – the noise, lighting, crowding or type of chair, to who owns the stamp – you or someone else. Memory fails us in comparing different copies of a stamp while browsing at a show or auction. Worst of all, the more a stamp interests you, the better it looks!

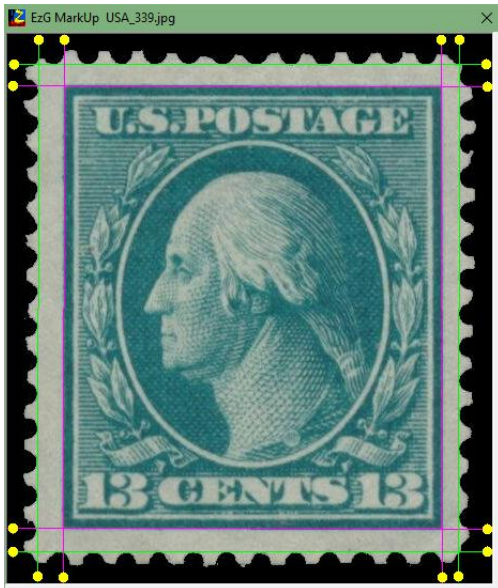
Finally, the Markup Window window lets you visually confirm that EzGrader has properly found the edges. When an image confuses EzGrader, you'll see it here. Causes and cures for such confusion are discussed in detail in tips and tricks.



eGrade

The eGrade has three basic components: Centering, the Margin Comparisons, and the Ratios. The numerical ratings are computed as percentages, with comparisons made so the ratings always range from 0 to 100, with 100 being perfect.

Ratings appear in the main window in the eGrade field and on the Printed Certificate. EzGrader also shows you a graphical representation of the grade in a vertical scale as show on the right. For illustration we will be looking at the main window, with the eGrade results for this stamp pictured below.



Stamp Metrics

eGrade	Adjusted Grade
VG-F 67	

Grade

100 Gem
90 XF
80 VF
70 F
60 VG-F
50 VG
40 G-VG
30 Good
20 Fair
10 Poor
0

Margin Ratios

100	85	67
	90	

Image Drop Box

Margins

Balance H/V	Avg (mm)	% of Stamp
95	1.1	18

Design

Edge Ratio (Horiz./Vert.)	Dimensions (mm) Horiz.	Vert.
0.85	19.0	22.4

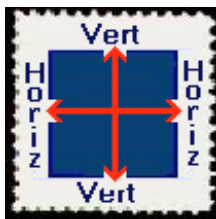
Centering

The centering ratings are the result of comparing opposite margins: *Horizontal* compares Left and Right margins, *Vertical* the Top and Bottom. In either case, the smaller of the two margins is divided by the larger, and the result multiplied by 100.

The overall appearance of a stamp depends on more than just centering, however. Margins play a major role in determining the visual impact of a stamp. Until now, this contribution, while recognized as important, could only be discussed in vague, general language. Words like *balanced*, *generous*, *tight* and *boardwalk margins* left considerable room for interpretation. In developing EzGrader, we had to decide how to quantify this relationship between margins and the rest of the stamp. While the centering on our sample stamp above isn't great, it is still attractive, in large part due to the exceptionally large and well-balanced margins.

Balance

Balance gives the relative sizes between the Horizontal and Vertical Margins. The Left and Right (Horizontal) margins are added, then compared with the sum of the Bottom and Top (Vertical) margins. In order to keep the rating in the range 0 - 100, the

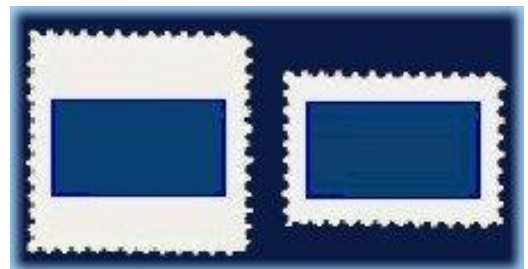


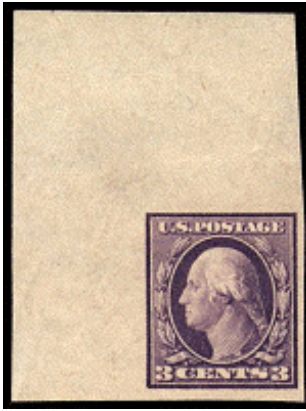
measurement is then the ratio of the smaller to the larger. The caption above the Balance rating will read “*Balance H/V*” if the

Horizontal sum is less than the Vertical, and “*Balance V/H*” should Vertical be less than Horizontal.

Margins		
Balance H/V	Avg (mm)	% of Stamp
95	1.1	18

For example, the two “stamps” to the right have identical designs, are very well centered, with large boardwalk margins. The first has a balance of 30 (H/V), the second 75 (H/V). Which would you prefer?





The stamp to the left will grade very poorly by EzGrader. The margins although huge, will easily fool EzGrader into determining that this stamp is way off center to the right & bottom. Software cannot make judgements in this kind of situation. Results of Imperforate stamps need to be interpreted and analyzed with a critical eye. The stamp on the right will grade quite well but the margin ratios will be quite large!



Yes, it's a real stamp!

Avg (mm) This is the average size of the margins of the stamp in mm. Accurate measurements require that the DPI settings be correct.

% of Stamp

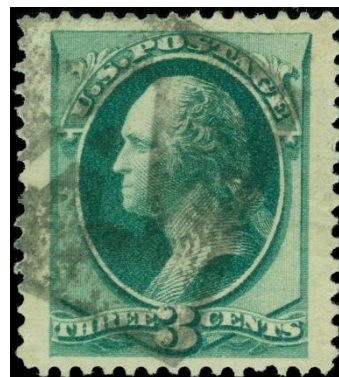
The above picture says it all. Divide the area of the Design by the area of the Stamp itself



Margins		
Balance H/W	Avg (mm)	% of Stamp
95	1.1	18

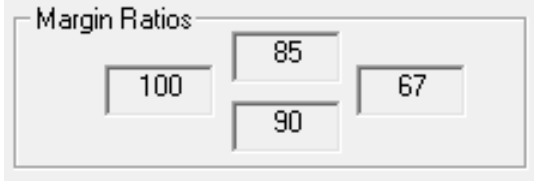
(the region bounded by the Stamp Edges) and you have the Margin Size as percentage of the overall stamp. In other words, how much of the stamp is margin and how much is design?

This value will be invaluable when determining if a stamp is truly a 'JUMBO' as denoted by some expertizers. To truly determine if a stamp is a JUMBO, one needs to have multiple copies of the same stamp to compare to, so that the % of Stamp values can be compared.



Margin Ratios

The Margin Ratios give the relative size of the margins. The largest margin is given as 100, the rest show their size relative to the largest. A perfectly balanced stamp would have **identical** margin ratios on each **opposing** side!



Margin Ratios

100	85	67
	90	

Design Size/ Edge Ratio

The Edge Ratio is simply the ratio of the Horizontal and Vertical Frame lengths. It is always Horizontal / Vertical. The Edge Ratios for these stamps are 1.02, 1.09, 1.53 and .59 (left to right). EzGrader measures the frame lines, then compares the horizontal frame lines to the vertical frame lines. The *Edge Ratio* is calculated by dividing the length of the horizontal frame by the length of the vertical frame.



Design

Edge Ratio (Horiz./Vert.)	Dimensions (mm)	
	Horiz.	Vert.
0.85	19.0	22.4



Because the *Edge Ratio* is computed from the printed design, it is constant for all copies of a given stamp. Both of these stamps have an *Edge Ratio* of 1.83 despite the vast differences in their overall size and margins.



All copies of the same stamp should have exactly the same edge ratio.

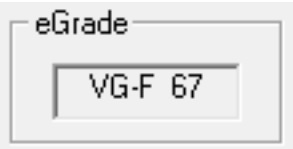
Any difference is a clear sign that the image is distorted or from a different stamp entirely, as is the case with the US Flat Plate and Rotary Plate printings. In fact, this measurement can be used as an indicator to determine if a stamp is Flat or Rotary plate specimen. One cause of distortion is covered in section 3 in Tips & Tricks. The only exception to this rule is due to paper shrinkage encountered in stamps printed using a wet printing process. Interpretation of the measurements is left to you to decide.

The eGrade Specifications

EzGrader gives you over a dozen measurements, precisely describing the stamp. It was clear to us during EzGrader's evolution what we could measure. What we didn't know was how other collectors would use these

numbers. So we asked them. During discussions with fellow collectors about how to make these results most useful, they consistently told us they wanted a short, precise grade to highlight the key measurements, something to replace the existing grading schemes. Two themes came up in every discussion: broad overall ratings and centering. The result is the eGrade.

An eGrade begins with the old, familiar grades. What is new is that this grade is determined precisely without any subjective influence. EzGrader looks up the *lowest* of the *Centering* measures in this chart:



This is the eGrade in the top box. To make it more precise, we extend the eGrade by including the

Centering rating. We now have a short and precise grade. But it is a brutal grade, focusing on the worst rating without considering the rest. As they say, the numbers don't lie !

EzGrader measures the stamp image. There can be no mercy or allowance given "for period of issue". Early & classic US perforated stamps are rarely anything other than fair to good – the

perfs usually cut into the design somewhere. So for these and similar issues, we need to go further. To characterize a stamp more fully, we can simply extend the eGrade by adding additional ratings. For instance, the stamp shown while describing Centering could have an extended eGrade like

This could be written as **VG-F 67R 85T 95H 18%**.

Where **67R**= Right Ratio, **85T**= Top Ratio, **95H** = Margin Balance and **18%**= % of stamp



For those early US stamps, it is possible that just the Margin Ratios and % of stamp might work best.

We don't know how you will use eGrades, so these are only suggestions.

Please write to us and tell us what you do with it.

eGrade	Lowest Centering Rating	
	Minimum	Maximum
Gem	99.50	100.00
Superb	98.00	99.49
XF-Sup	95.00	97.99
XF	90.00	94.99
VF-XF	85.00	89.99
VF	80.00	84.99
F-VF	75.00	79.99
Fine	70.00	74.99
VG-F	60.00	69.99
VG	50.00	59.99
G-VG	40.00	49.99
Good	30.00	39.99
Fair	20.00	29.99
Poor	10.00	19.99
SF	0.00	9.99

The Certificate

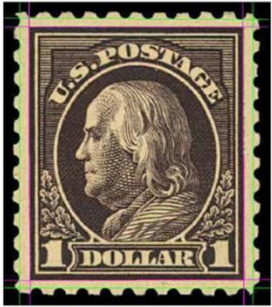
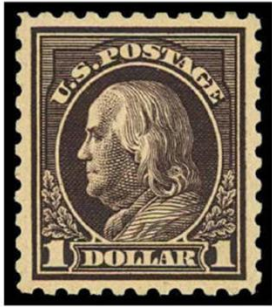
Printing a stamp's Certificate gives you a permanent record of its eGrade. The images, ratings and measurements work together with the unique Certificate number to provide reliable documentation for the stamp.

The Certificate features:

- Original Stamp Image and filename
- Measured Image
- eGrade and its component ratings, as described above
- Grade Adjustments if any as well as user notes
- A unique Certificate Number
- Feature Specifications used in measuring
- Dimensions of the stamp in terms of the image (that is, mm) & resolution
- Edge Ratio
- Date of grading
- EzGrader version number
- Who registered the EzGrader software that created the Certificate

eGrade™

Certificate of Measurement & Grading



<u>Margins</u>		
Balance	84	V/H
Size (% of Stamp)	14	
Average (mm)	1.2	
Ratios:		
	Top: 84	
Left: 100	Right: 97	
	Bottom: 81	
<u>Dimensions</u>		
Edge Ratio (Horiz/Vert)	00.85	
Horizontal (mm)	30.10	
Vertical (mm)	35.50	
Image Resolution:	300	
Source Image:	Test_Image4.jpg	

<u>Centering</u>		
Horizontal	97	Offset to Right
Vertical	96	Offset to Bottom
eGrade™	XF-Sup 96	
<u>Adjusted Grade</u>		
<u>Grade Adjustments</u>		
<u>User Notes</u>		

Certificate No. 0000008
November 08, 2019

This Copy of EzGrader™
Registered to:
Marios Theodossiou

Version: 3.0 ©SoftPro 2001 All Rights Reserved www.ezstamp.com

Getting the Most Out of EzGrader

EzGrader is the result of years of study and experimentation. We have measured tens of thousands of stamps and stamp images in the process. When we started, scanners were expensive, uncommon and not very good. Few collectors had any use whatever for stamp images. EzGrader was way ahead of the technology it required for it to be useful and effective. Things have changed. Home computers are fast. The memory and disk storage needed for image handling are now standard. Good scanners are inexpensive. Internet connection is cheap, fast and reliable. Now, on the Internet, collectors share their “virtual” collections – made up of nothing but images. The booming Internet stamp market wouldn’t exist without stamp images. Now is the time to take the next step.

As we worked with EzGrader over the years, we have learned a lot about what we could and could not do with it. We were also learning techniques to help EzGrader work with difficult stamps, as well as how to recognize and avoid problems inherent in working with images. This section is here to help you get the most from EzGrader.

Assumptions

In order to find an image’s features, EzGrader makes a couple of simple assumptions about what’s in the image:

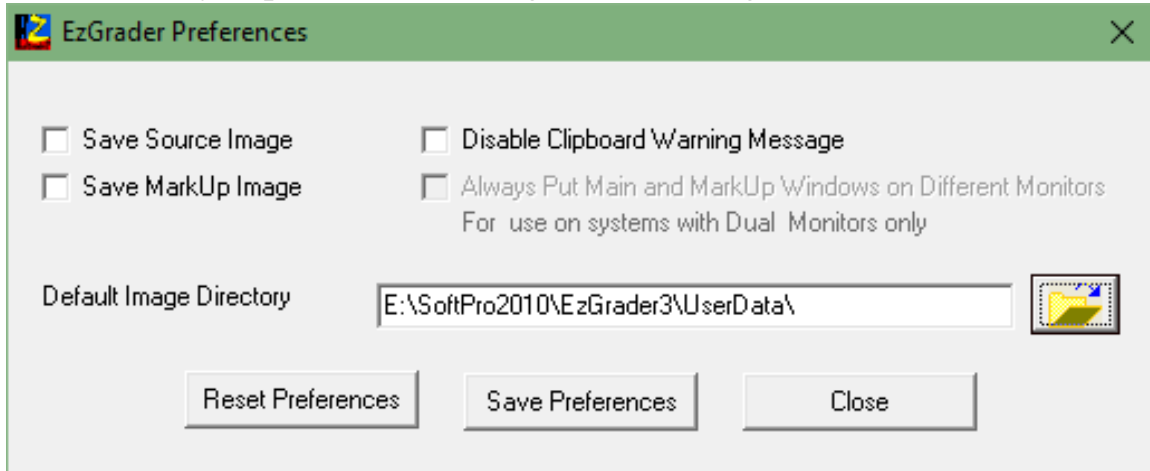
- The background is **BLACK**. Other dark backgrounds may work, but we **HIGHLY** recommend you scan against a black background. Please refer to this excellent document on our website
- <https://ezstamp.com/how-to-make-amazing-scans-of-your-stamps/>
- It completely surrounds the stamp, with no part of the stamp touching the edge of the image. This requires that there be a black border of sufficient contrast to the stamp (**a black background around the stamp works best!**)
- The Stamp itself is rectangular, and is printed on white or light paper.
- The center of the image lies inside the design.

Your Computers Setup/Settings

We **recommend a minimum** screen resolution of 1024 x 768 or larger with color setting at 24 bit true color. EzGrader will still work at 800 x 620 but your screen size and image viewer will be reduced in size.

EzGrader requires that your systems Decimal Separator be a period (.) and not a Comma (,). EzGrader will adjust itself if it is not during the current session & then put it back the way it was when EzGrader closes. It is also important to set up the Screen Displays properly if you are using a DUAL Monitor System (this is explained earlier in this document).

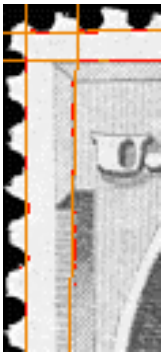
After installation, we recommend you create a new folder (directory), then make this the *default image directory* using the Preference option on the toolbar. When you download or scan an image, put it in this folder. You'll know where you put it, and deleting obsolete images will be safer and easier.



Note: If the Default Image Directory field is blank and the Save Source or Save MarkUp Image is checked, then the image will be saved to the UserData folder.

The Essentials

Always keep in mind that EzGrader measures the *image* of a stamp, not the actual stamp.



➤ **Always check** the measurement window for problems as shown in the examples here. If it doesn't look right, there is probably a problem in the image.



➤ Take a closer look at the examples shown here.. You can save the desired image (via the menu command or toolbar button), then load it into your image editor (we recommend and use **EzImage** available at www.ezstamp.com). This lets you find and correct problems at the same time. Alternately, EzGrader can ZOOM/magnify the image right on the screen. Clicking on the Zoom Icon will enlarge the current image up to 300% so you can better see the details & adjust the lines if need be & then recalculate the grade.



EzGrader's Internal Special Features Auto-detection

EzGrader uses multiple algorithms to find the edges of the design. Each was developed to work best with a specific design type and is handled automatically. We have identified five major frame types:

- **Straight**: EzGrader finds the best straight line, using as many pixels as possible.

- **Partial**: used with rectangular designs with partial frame lines. This Australian stamp was the prototype for the partial feature.



- **Free Form**: for stamp designs without obvious edges. EzGrader starts at the margin, then works toward the center of the stamp. When it finds something, it draws the frame line through it. As a paper inclusion or dirt speck can easily mislead EzGrader, pay special attention to the Measured Image window. Any false features can be easily erased in your image editor, and the new image re-measured.

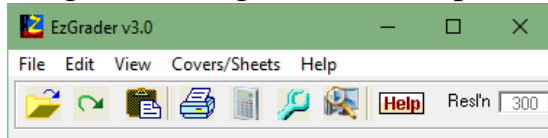


- **Perfs cut into design**: EzGrader has to assume that a margin exists before it can measure it. EzGrader uses this when there is in fact no margin - when the perforations overlap the design or, for imperforate stamps, when the edge cuts the design. EzGrader then uses the margin as the frame edge, so that the margin size becomes zero. By comparing *Edge Ratios* between stamps, it is possible to calculate how much of the design has been lost.

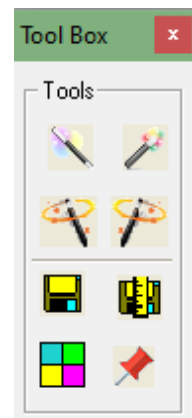
- **Ornate**: for when all else fails. EzGrader draws the best-fit line using all pixels visible from each margin. Many older stamps have their designs outlined with scrollwork or baroque elements that defy attempts to identify an “edge”. EzGrader is extending the existing concepts behind stamp grading, and there is no precedent that says where the “edge” is for such stamps. The current visual approach is mostly based on an intuitive “measuring” of the white space on each margin that includes all of the design elements simultaneously. This is exactly what the internal *Ornate* algorithm does. There are problems with this approach, however. Our visual processing automatically compensates for a number of things that a computer cannot. For example, we often see smooth, continuous lines or areas of color even when small breaks or jagged edges are visible to EzGrader. Unfortunately for us, this leads to



misinterpreting what we see. For instance, this stamp is unquestionably very well centered. Yet strict application of existing grading standards insists that this stamp is much further down the scale: the perfs touch the design at the top! Further, the design itself is not symmetric. There are many other issues to be decided by the collecting community before we can truly handle these designs. In working with Ornate frames, keep in mind that images that aren't vertical are especially confusing. Using your image editor to rotate the image a few degrees often helps.



When all else fails, you should use EzGrader's **Toolbox** from the View Menu or the **Toolbar**



Shortcut (click the **blue** wrench icon). In the toolbox, you will see four 'Magic Buttons' which use more aggressive algorithms and will usually find the edges in most cases.

Scanning your stamps

- **Determine** your scanner's true Optical Resolution, then always use it as the scanning resolution. 300 dpi is common in consumer oriented scanners.
- **Scan** at actual size.
- **Save** your scans as Windows bitmaps (.bmp) to avoid loss of information.
- **Make** image adjustments using your image editing software (ie EzImage). It will usually do a better job than the software that came with your scanner.
- **Lay out** your stamps directly on the scanner if possible (this will generate optimal results). Otherwise, place them on an approval card or stock sheet. Mounts are ok, but tend to cause chromatic distortion. This ensures a good background and the stamps will lay flat. Refer to this documents for best results:



<https://ezstamp.com/how-to-make-amazing-scans-of-your-stamps/>

- **Leave** some space between the stamp and any edges. Give yourself some room to crop the edge lines. Especially important are cases where you have scanned a stamp still in its mount. These will invariably leave reflections near the bottom, which will be detected as an edge by



EzGrader. Where possible, always scan your stamp out of the mounts! Take a close look at the bottom of the scan on the right! Faint gray lines are visible from the glue lines on the mounts which may interfere with the analysis of the image.

- **Orient** the stamps as vertically as possible so that rotation will not be required.
- **Avoid** digital cameras. If you must, make sure you have a good background, the stamp lies flat, and the camera is centered over the

stamp. Here's why. The stamp on the right is distorted

- **Read** more about scanners and scanning. There are excellent web sites devoted to this, including this page



<https://ezstamp.com/how-to-make-amazing-scans-of-your-stamps/>

Downloading Images

- **Compare** stamp images from the Internet is especially useful in buying online at auctions or dealers. To measure an image you've found on the web, you have to first get a copy on your computer: Load it with your browser and right click on the image. Select "save picture [or image] as", which starts the standard "file save" window. Save it in your image folder, using a meaningful file name. You can use .bmp or .jpg images directly. You need to convert other formats (e.g. .GIF) with an image editor. You can also copy & paste directly into EzGrader by Right clicking on the web image & then click on the Clipboard icon on the EzGrader toolbar. **Note:** any physical measurements of the stamp such as dimensions will not be accurate as there is no way of determining the resolution (DPI) of web images.
- **Ask** for a better image when the one supplied is too small, blurry, or distorted. Sellers especially should be happy to oblige.
- **Collectors** can include copies of EzGrader's grading and measured images with their sale listings. Dealers, please contact SoftPro before doing so.



The Stamp & What to Look For

Many of the issues that EzGrader encounters in measuring a stamp are due to the stamp itself. Here are some examples.

- **Cancellations** and overprints sometimes make a stamp **unmeasurable**.

The stamp at the right will not automatically grade properly by EzGrader due to the very heavy cancellation. The cancel hides the edges of the stamp design thus giving EzGrader no chance to detect them! But, you can manually adjust the lines yourself & arrive at an accurate centering.



There are many such stamps though, where EzGrader works beautifully, such as the ones below, which have moderate cancels which do not hide the stamp design. As long as there is enough contrast between the cancel, the stamp image and the edges of the stamp design, chances are that EzGrader will perform quite well. If EzGrader can detect the EDGES of the



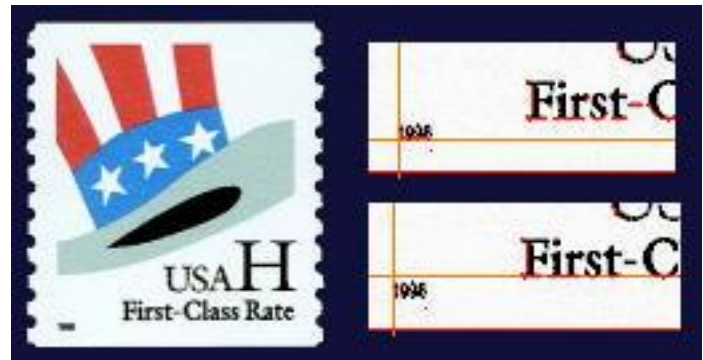
design, the stamp will grade properly. Always check the markup images for the detected edges!

- **Marginal inscriptions** or markings require a decision on your part – should it be part of the design



centering?

or not. The question for this common US stamp is whether the date in the lower left hand corner is part of the design, or should it be excluded from the



What about this Australian stamp? The word “tourism” seems an integral part of the design. Does the bottom inscription qualify as part of the design? In general we believe that this stamp should be graded from the top of the word TOURISM to the bottom of the 39c denomination. The rectangle bounded by those portions of the stamp is how it should be graded!

- **Alterations**, to stamps such as the addition of perforations or filling in tears can cause issues.
- **Printing** and production problems create their share of problem stamps as well. From the incomplete die impressions of early US stamps to over inking to worn lithographic stones to paper inclusions, the difficulties in stamp production seem limitless. Weak impressions and weak color transfer and light colored stamps can be problematic to grade, but easily solved with the manual adjustment of the detected lines.
- **Design** issues, including the non-symmetric features discussed earlier, often add an element of uncertainty. Color selection is one of the more common problems. This is our favorite example of self-defeating color selection. Another is shape. How do you measure centering on a round stamp?



Many modern stamps where there is a continuous design stretching to the edges of the stamp perforations will be difficult to grade. EzGrader provides you with an easy solution. Using the manual adjustment of the detection lines, EzGrader will prove to be a valuable tool to analyze and measure the centering of your stamps. Enjoy & please write us!

Unlisted Varieties?

This beauty includes the edges of the stamps on either side and at the top. It should be perfectly centered, but EzGrader measures these three margins as all different. The Bottom Margin is the largest, with the Top margin 17% narrower and the Right Margin 13% narrower! We now know there are at least two constant plate varieties: horizontal pairs with wide or narrow spacing. Is this a single dropped transfer, or is an entire row or column affected? EzGrader can help you analyze your stamps in many ways!



Tips & Tricks

Working with your images

EzGrader has few problems with most images you will supply, but there will be images that EzGrader won't know how to handle without help from you. For instance, we have not yet found a fully automated solution for all cancelled stamps. Occasionally, an edge gets skipped, or a feature recognized incorrectly. A quick edit to the image file can usually help. We have deliberately left out image editing features. Existing programs give you everything needed (see **EzImage**). Rather than reinvent the wheel, we chose to keep EzGrader as inexpensive as we could. Excellent editing programs abound, and if you are already working with a scanner or digital camera, you are already using one. Also available in this version of EzGrader is the ability to manually adjust the lines which will allow proper grading of almost any stamp. The Magic Buttons in the tool box will also make it possible to quickly grade problematic heavy cancelled stamps.

Image files

Digital images are stored and transmitted as numbers. Unfortunately, representing images exactly as scanned requires a lot of numbers! Images stored as full bitmaps (*.bmp) grow exponentially with the size of the image. To get around this, many different techniques are used to simplify and compress images, but information in the original bitmap gets discarded

in the process. Furthermore, the different compression methods store their results in files that are incompatible with other formats.

For accuracy and simplicity, EzGrader prefers the uncompressed **.bmp** format. We recommend you save the images you scan or have modified with your editor as .bmp files. EzGrader always saves images as .bmp files.

Compression does become important when sending and receiving images from other computers. Bitmap files are uncommon on the Internet due to their larger size. EzGrader also reads images in the most common of the compressed formats, .jpg. Conversion of other formats to .bmp or .jpg format is a quick, simple job for your editing program. Adding to the complexity are many problematic stamps such as heavy cancels, lightly colored (faint yellow or light orange stamps are most difficult to analyze), and light or faded areas in the design edges

Image editing

The first key to editing images is to *change as little of the information contained in the original as possible*. Compare your edited image to the original, making sure you haven't added or subtracted significant details.

Avoid operations that change the size or shape of an image (rotation, color correction etc). Many edits may seem useful, but in fact alter the image in ways that radically affect the eGrade. Among the worst are re-sizing, edge enhancement, rotation, sharpening and use of filters.

Try to keep the original scan as intact as possible. You can reduce the amount of editing by ensuring that you place your stamps squarely on the scanner and scan your stamps consistently (ie 300 dpi at 100% of actual size).

Experiment and practice. There is no fixed process that will work on all stamp images. Go back and forth between EzGrader and your editor, trying different tools and watching what EzGrader does after each change.

When an image doesn't grade properly or is obviously wrong, there are four edits that fix it 90% of the time. To make these changes, load the image into your editor, use the appropriate tools, then save the image (or copy it to the clipboard) and reload or paste it into EzGrader. The first three

adjustments adjust the balance between the image, the paper, and the background.

Gamma Correction, despite an intimidating name, is the tool to try first. Adjust the gamma until



Too Much

Too Little

Just Right

the stamp on the screen looks like the actual stamp. Gamma correction controls the overall brightness of an image. Incorrect gamma settings can make images look too dark or washed out and prevent them from grading properly.

Contrast gives a similar effect. The original image is on the left, with EzGrader's initial measurements to its right. It can't find the frame lines because there isn't enough difference (contrast) between the color of the paper and the design. The contrast in the third stamp has been increased 40%, which highlights the design enough for EzGrader to get it right. *Experimentation will be required to get correct results when editing images in any way.*



Brightness adjustments also highlight features, and are particularly useful where paper color, aging or toning interfere with EzGrader finding the design. Changes in brightness are usually done along with Contrast changes. In this image, the original is on the left, the center slice has a straight contrast boost (40%), and the right segment is the same contrast adjustment with an added 10% increase in Brightness. Notice how the paper toning becomes almost invisible. A word of warning however. Overdoing it can erase some of the fainter parts of the design. Practice will show you how much to use.



Crop an image to get rid of anything that doesn't belong. If, after cropping the image, the stamp touches the edge of the image at any point, extend the background by adding a border. The two most common reasons for cropping are extra lines in the image, and extra pieces attached to the stamp (selvedge or parts of adjacent stamps, stamp mounts).



In the example below, the original image includes a line from the mount holding the stamp. EzGrader detects the mount edge, as seen in the markup Image, and gives an erroneous result. A quick crop of the image, and the image measures perfectly.



Cropping is all that's needed to fix this image as well:



Here the mount line was removed with a reverse crop: select an area that includes the line but not the stamp, then convert that area to the background color. The bottom problem is solved, but there is still a big problem at the top. A close look finds a white line at the top, just one pixel wide. For some reason, lines like this appear in many images on the Internet. They are easily overlooked, but easy to fix. Again, a simple crop and it's fixed.

If you make a habit of cropping off wide borders, most of these problems are eliminated before they can show up.

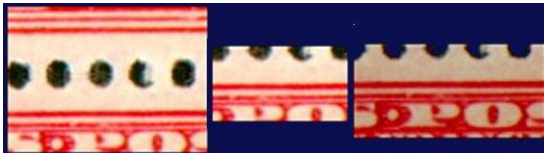
Cropping is the tool of choice for isolating individual stamps from scans like this that include multiple stamps. It also works for stamp multiples, pairs, blocks, etc. Be sure to leave some room around the perf tips. ***Do not crop so that the perf tips touch the border.***



Also useful for trimming selvedge, like this:
 This outstanding block (right→) grades 89-77-78 as a block, but if broken up, the separate stamps have different eGrades. Cropping out and measuring each stamp lets you know if there is a perfect stamp in there that is worth far more on its own, or if the block is better left whole.



One problem shows up almost exclusively in the process of cropping multiples. Perforations between stamps tend to appear brighter, probably because of light scattering from the stamp edges around the holes, as the first image below shows. After cropping and



adding a border, it's hard to tell if the holes are part of the border or part of the stamp. The cure? The rightmost image has had the Contrast boosted 20% and the Brightness decreased by 10%.



Rotation of an image is generally to be avoided, except for right angle rotations (90, 180 and 270 degrees). EzGrader can automatically correct for minor rotations itself (up to 15 degrees) using its own custom algorithms and internal routines.

The operations described so far operate on the image as a whole. There are occasional problems that can't be solved without changing a particular part

of the image. All sorts of extraneous things get into images: paper inclusions, pen and pencil marks, bits of paper, postal markings (of course), toning, hinge remnants on the perf tips, and a variety of other issues. Should a wayward blob interfere with a measurement, feel free to take it out of the picture.

Finally, there are situations where you need to change the image because of the design itself. A case in point is this stamp. No matter what we tried, EzGrader couldn't find the upper left corner. The outside edge is just too weakly colored to be detectable. So, we fixed it by drawing our own line in the image, as you see here, which worked fine. (For the record, the eGrade measurements are 89H, 67V, 92 Balance and 15% margins – Fine-67 due to the offset towards the bottom.)

While strengthening part of the design or erasing a cancellation may seem drastic, if you do it with a particular objective in mind, and affect only those parts of the image that need it, sometimes it's the only way. Please be sure to describe your alterations if you publish an eGrade. This method should be a last resort, since you can now easily manually adjust the lines where they should be if EzGrader misses on a first pass.



The Future

We're not stopping here. Originally EzGrader was just an internal tool, and, when the time was right, a tool for general use. Some of the things we may incorporate into a future version are:

- Built in scanner and image calibration, be it automatic or semi-automatic.
- Links to EzStamp.
- Enhanced analytics to enhance the detection of many stamps.

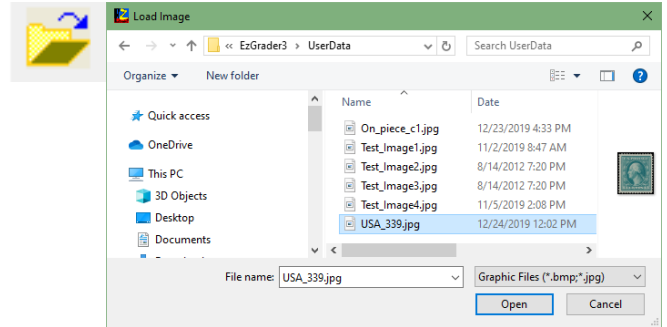
Of course this list can and will change as you tell us what you want from EzGrader. We need your suggestions and comments.

Tips & How Do I ...?

How Do I Load an Image?

There are several ways to get images into EzGrader.

- The first is via the Standard Windows Open File Dialog by clicking on the Folder Icon. This can also be accessed from the File Menu Itself. Simply select any BMP or JPG file & open it. EzGrader will then automatically analyze the image and present the results to you.
- The Second way it to paste images that you have placed into the Windows Clipboard. The process is to Open the image in an image Editor (like EzImage or Paint) then select All and copy (Ctrl+A, Ctrl+C). Once it is in the clipboard, click the Clipboard Icon in EzGrader to load it
- Any image, once it has been loaded by EzGrader, can be reloaded by clicking the reload Icon
- A third way is to use Drag & Drop. Simply Drag any image saved on your PC & drop it onto the EzGrader Logo in the Image Drop Box. This will load the image & analyze it. To use Drag & Drop efficiently, I usually have Windows File Explorer Open as well as EzGrader & just drag & drop as needed.



How Do I Load Multiple Images at Once?

This is one of the most useful & powerful options in EzGrader. It uses the **Drag & Drop** process as described above, but instead of dropping one image at a time, you can drop multiple images at once. Once multiple images are dropped, EzGrader initiates a Rapid Process to analyze the images. The Image Drop box will show you that Multiple Images have been loaded. The Blue Arrows will allow you to go forwards or backwards. Once the last image has been processed, clicking on the Arrow to go Forward, will terminate the Process & you can begin another Rapid Process or do something else in EzGrader. You can cancel a Rapid Process at any time by going to the Edit Menu & select Cancel Rapid Process. During the Rapid Process, you can use any of the other options available in EzGrader such as Print a Certificate, Use the Toolbox etc.



When we are looking for SUPERB or GEM copies of stamps, we will scan multiple copies of stamps & use the Rapid process to quickly determine which ones are best. During a Rapid Process session, if you load or paste an image, a message box will ask if you want to cancel the current rapid process.

How Do I Manually Adjust the Lines?

Sometimes, EzGrader will not automatically detect the stamp edges correctly. This can be for several reasons, but one of the most common is a heavy cancel that hides the design edge of the stamp, such as the ones shown here. The first stamp will cause issues because of the heavy



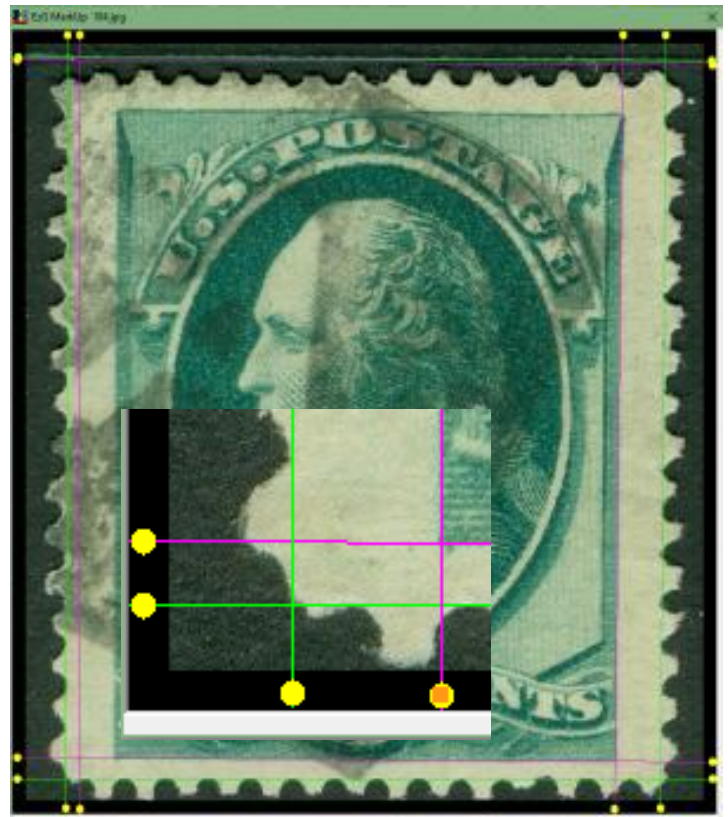
cancel & the second stamp will cause issues because of the white line across the top of the stamp (that is caused by the plastic mount). Quality, clean scans against a black background will alleviate almost all of these potential issues.

Here are the Markup windows for these two stamps. Notice that on both stamps, the Left margins were not detected correctly.

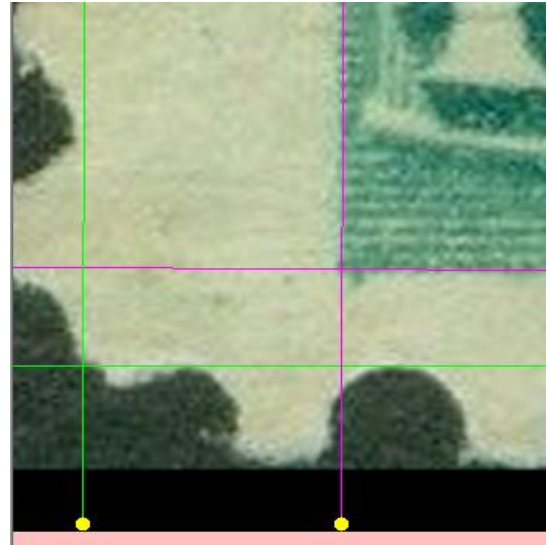
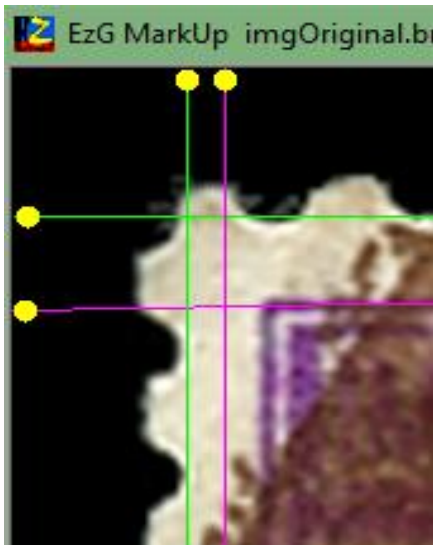
This can be easily corrected by moving the line where it should be. Simply **RIGHT** click on the *ball connected to the line* & the Ball will turn **Orange**. Then while holding down the **LEFT** mouse button, **drag** the line where it needs to be. Do the same for the Bottom ball. Once in the correct position, click the **Recalculate** button. If you mistakenly select the Wrong ball, you

can RIGHT click anywhere on the markup image to release the ball & select the correct one. You can also Shift & Right click (ball will turn **Green**) on one end of the line and use the arrow keys to move it rather than using the mouse.

To move BOTH balls at once, hold down the Shift Key & Right click on the first ball & then Shift Key & Right click on the Opposing ball. They will both turn **Green**. Now, using the arrow keys on the keyboard, you can move the line in the direction you want. This is very useful for fine adjustments of one or two pixels.



When performing fine adjustments to the lines (perf lines or design lines), it is very helpful to **ZOOM** the image using the **ZOOM** icon. You can zoom using 200% or 300% of actual size. Zooming large images to 300% can take a few moments to perform (the Status bar will let you know what EzGrader is doing). This is especially useful for time intensive processes.



How Do I Recalculate After I Manually Adjust the Lines?

Once you have manually adjusted the detection lines, you need to click the recalculate icon (calculator) to redo the **eGrade**. This will refresh the main screen with the new measurements.



How Do I Adjust the eGrade for Faults in my Stamps?

*** Before proceeding to adjust your **eGrade**, please read this very important article on our website

<https://ezstamp.com/why-stamp-grading-and-centering-matters/>

In general, if **EzGrader** scores a stamp more modestly than what you expected, 'it truly is what it is with no emotion, no pride of ownership and no subjective considerations in the calculations.' The numbers don't lie. In fact, an otherwise perfect post office fresh stamp, with perfect original gum, perfs etc with NO imperfections of any kind, *will have the same eGrade as the adjusted grade for imperfections such as tears, perf defects etc. used by third party grading entities.* Conversely, a perfectly centered stamp with imperfections will have a lower adjusted grade than the **eGrade** reported by **EzGrader**. **EzGrader** cannot and does not measure any of these

factors. That is a much more subjective determination, albeit guidelines do exist on how to increase or decrease a stamps grade based on these other criteria. This is now available for you to use should you wish to do so. Here's how.

Once you have graded a stamp, click on the ' *i* ' to select from the list of available Adjustments. These selections will be reported on the printed Certificate to let you & others know details of the stamp and any faults. Full disclosure will help you and purchasers have confidence in what is being purchased or sold.

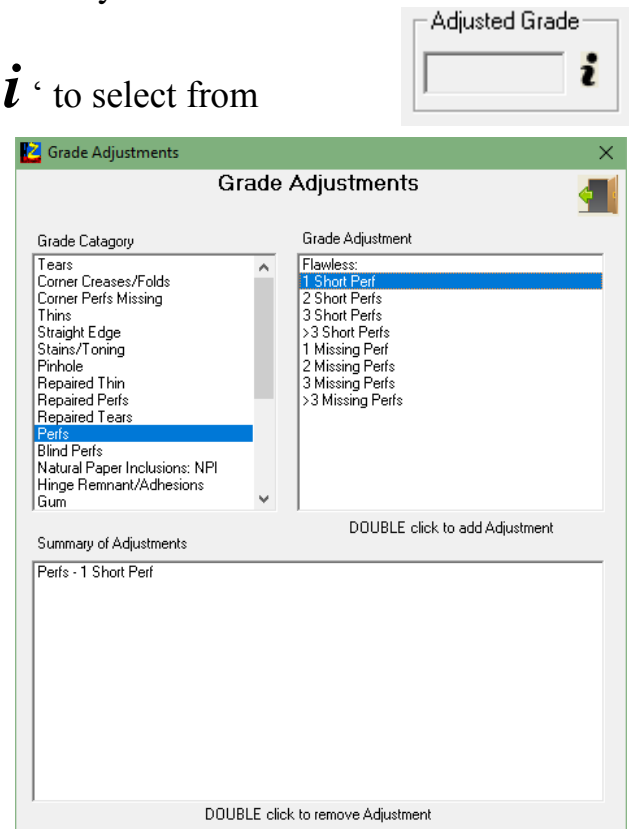
The Grade Category selection box may be navigated by using the arrow keys of the keyboard. UP and RIGHT arrows will move down the list; DOWN and LEFT arrows will move up the list. Also, pressing the initial letter of one or more existing categories (not case sensitive) will move to the next category beginning with that letter.

Repeated pressing of the same letter will scroll through all categories beginning with

that letter and will wrap around after the last category. Of course, "normal" selection is available on any category with a single mouse click and the categories will scroll normally when using the mouse wheel.

Each category selected presents three or more items in the Grade adjustments box. Selection is done by double clicking a specific adjustment. It is possible to select an unlimited number of adjustments, including the same adjustment an unlimited number of times. Regardless of the number selected, only a maximum of four (4) will appear on the printed certificate, however, the "Adjusted Grade" value itself will be calculated based on ALL adjustments selected, regardless of duplication or the number selected. For example, if 7 adjustments are selected, the first 4 of the 7 will be printed on the certificate, however, the final adjusted grade will consider all 7 adjustment values. It is possible to select "competing" adjustments such as "Flawless: No Thins" and also select "2-3mm Thin". Of course, this makes no logical sense and up to you to make a logical selection.

***** Note:** No more than the first 4 adjustment items will appear on the printed certificate



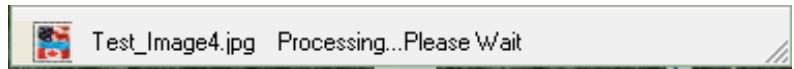
How Do I place a Cat # on the Certificate?

You can enter any notes or other comments that you like in the Notes area on the EzGrader main window just above the taskbar as shown here. Notes may be truncated on the certificate if they are too long.

A screenshot of a text input field with the placeholder text "Enter Notes Here". The field contains the text "Sc#329". To the right of the text is a vertical scrollbar with up and down arrows.

What is the Status bar For?

The Status bar is used for several purposes. It will show you the name of the image that you have loaded or if you have pasted an image from the Windows clipboard. During time intensive processes such as when loading large images, you will see a message in the status bar informing you that EzGrader is processing. EzGrader uses advanced analytics and can take some time to perform as it makes multiple passes to determine the best method for accuracy of measurements. The status bar is also used to display tips & hints when you hover over the icons in EzGrader.



I Cannot see the Adjustment Balls on Large Images.

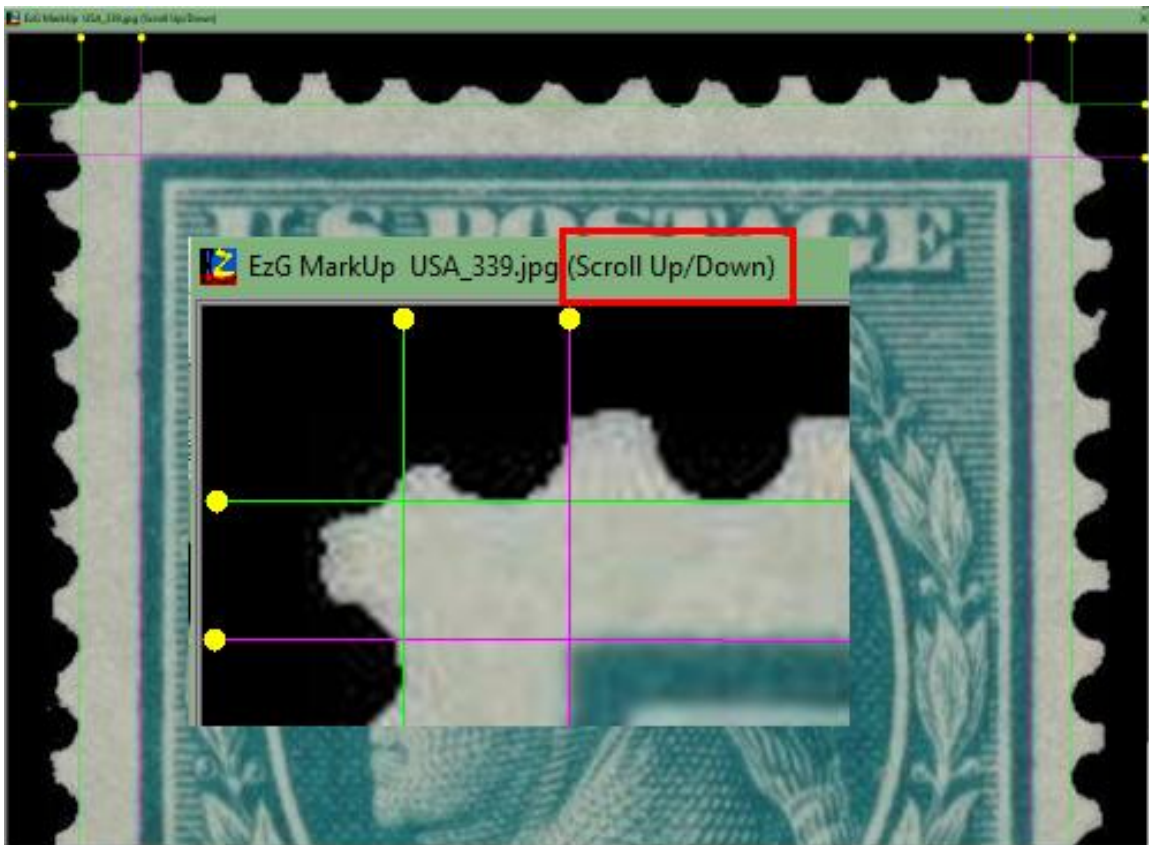
EzGrader has built in routines to handle large images that will not fit on your monitor.

This will be most prevalent when you **ZOOM** an image to 200% or 300%. When this happens, you can still access the balls by **LEFT** clicking on the image.



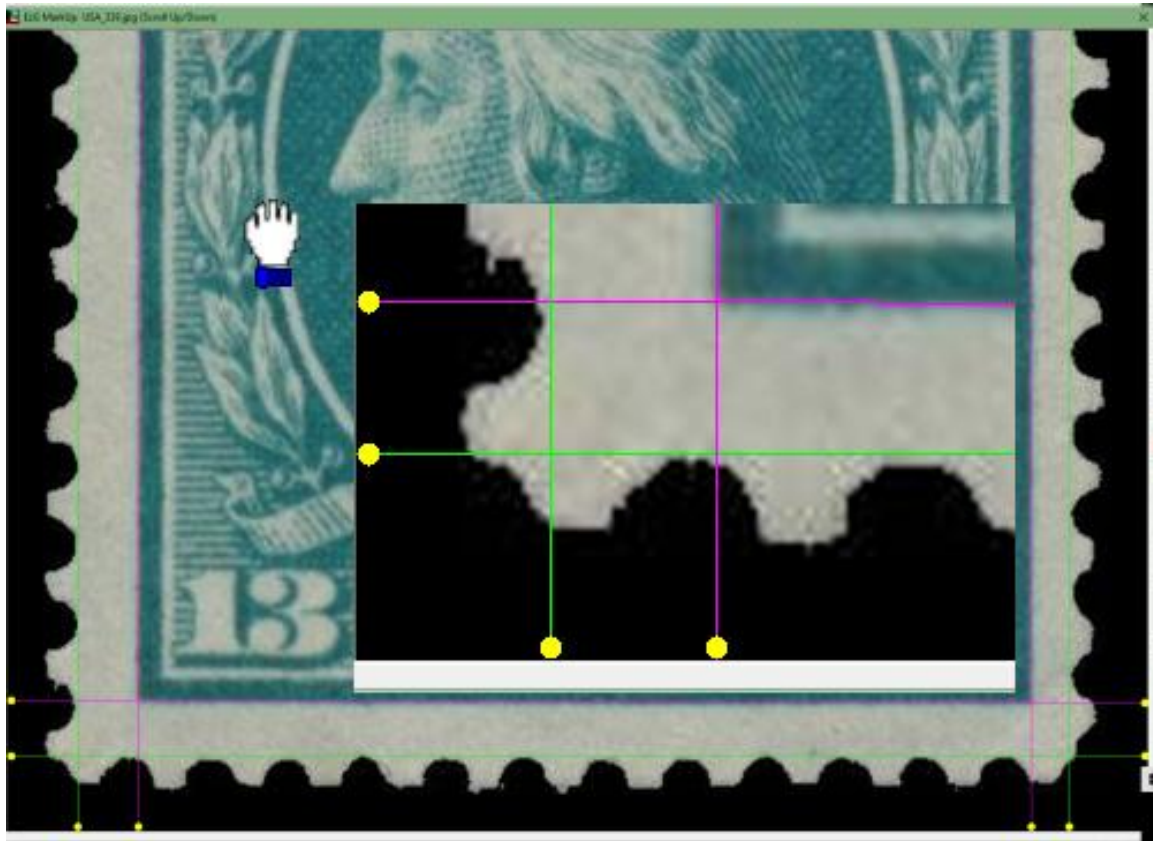
The Cursor will change to the **MOVE** cursor that looks like a Hand Icon. The Markup window title will also change to notify you that scrolling is available to expose the balls for adjustments.

Notice on the image below that the bottom balls & lines are not visible due to the size.



To expose the balls & lines at the bottom, Left click on the image & the cursor will change to a Hand/Move icon.

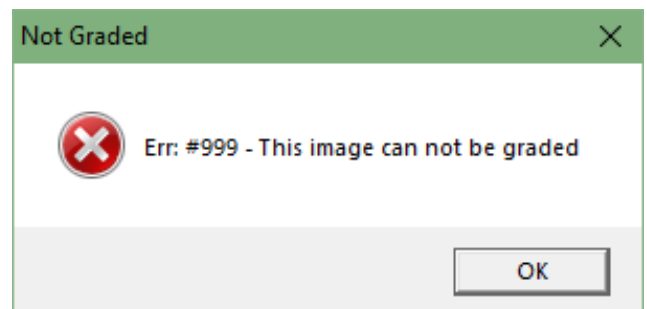
Drag in the direction you want to move until you see the lines as shown below. & let go of the mouse. You can now adjust lines as needed.



This also works when images are too WIDE to fit on the screen.

I have encountered an Err: #999. What does this mean?

This can occasionally happen when you use an image that EzGrader does not know what to do with. It could be for many reasons: Colored background, badly rotated, dirty background, unsupported images etc. Sometimes all it takes is to open the image in an image editor like **EzImage** and rotate it, crop it or clean the background. If you cannot get the image to work, send it to us & we can analyze it to see what the issue may be.



How do I grade Images that are not .bmp or .jpg (ie .jpeg,.gif)?

EzGrader will only accept **.bmp** or **.jpg** images. If you have images in other formats, you have two options available so you can use them in EzGrader.

One is to open the image in an image editing program, such as EzImage, copy the image to the clipboard and then paste it into EzGrader.

The other way is to convert the image to BMP or JPG using EzImage, save it then open the converted image in Ezrader. The first option should be your first choice.

How Do I Use the Tool Box ? What is it for?

The toolbox will be an important factor in your effective use of EzGrader.

The first 4 icons are the '**Magic Buttons**' as we like to call them. Most of the time, when you load a 'good image' into EzGrader, it will correctly analyze the image. But there are times that it can't for several reasons: heavy cancel, weak color impression of the stamp (especially light yellow & light orange), selvedge, adhesions and so on.

First, some clarification as to what EzGrader does when you load an image.

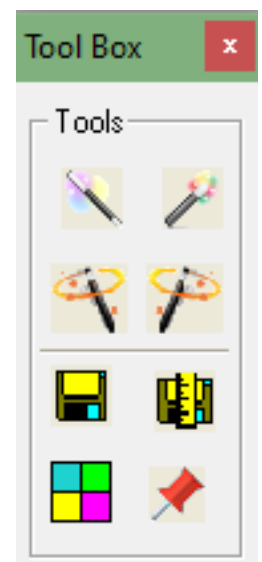
EzGrader uses a series of seven different algorithms (7 of them to be exact) to analyze the image it is presented with. This series of algorithms endeavors to recognize the underlying relationships in the image pixel data through a process that mimics the way the human brain operates. In **computer** language, EzGrader uses **Neural Network Analytics**.

These analyses though, are not perfect and will not detect every image correctly. Hence the magic buttons.

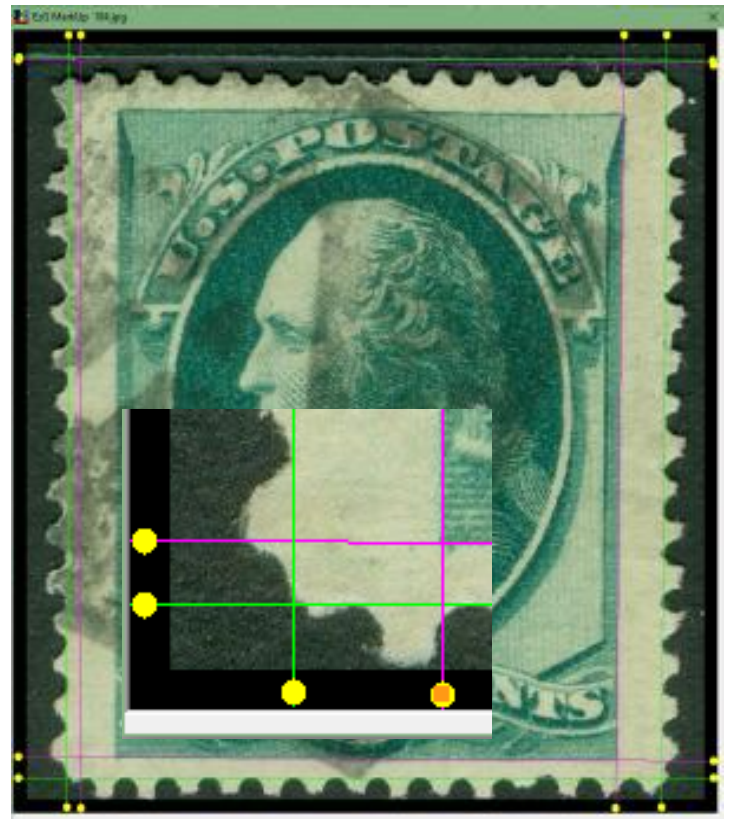
These 4 **magic buttons** use a very highly modified and aggressive set of neural networks that will likely correctly detect and grade most problematic stamps. You will need to experiment to see which button works best.

We have found that magic Button #2 works best for heavy cancel stamps, while #1 is best for light colored stamps.

There is no set rule. When problematic stamps come up, try each in order until it works. If it still fails, you can use the manual adjustment of the balls & lines to get it right.



Let's use two examples to show you what we mean. This first stamp (Japanese) is heavily cancelled and hides a significant portion of the left design edge and EzGrader misses it on the first load. The same is true of the US stamp. The left edge is missed.



After using Magic Button #2, in both cases, the images was accurately analyzed and graded.

** Please note that the Magic Buttons can **ONLY** be used while the image is at normal size (must not be zoomed).

The other 4 icons in the toolbox are used to Save the Source Image, Save the Markup Image, Change the color of the detection lines and the Pin icon to LOCK the position of the toolbox relative to EzGrader's Main Window.

When the pin is **Red** (Unpinned), the toolbox will be tied to to EzGrader's Main Window but you can freely move the Toolbox wherever you like.

Once the Main Window is moved, the Toolbox will return to the default position on either side of the main Window.

When Pinned (**Blue**), it stays in one position on the screen until you move it, regardless of where the Main Window is located. This is very useful on dual monitor systems..

Why does EzGrader not assign a JUMBO grade?

The term ‘**Jumbo**’ is relative term and is quite subjective. It can also be very issue and stamp specific

Jumbo refers to the size of the spaces between the design edges and the perforations (the margins around the stamp design to the inside of the perforations or the edges, for imperforate stamps).

Large, Broad margins are considered very attractive to most dealers and collectors alike. EzGrader provides you with an easy way to quantitatively assess a stamps margins, namely the % of Stamp value calculated by EzGrader. [Please refer to this section in the manual](#)

Sometimes I get Short Detection Lines. How do I fix this?

Some images, especially used images with cancels that obstruct the design edge can initially confuse **EzGrader**. If you look carefully at the **Markup** image of this stamp, the **TOP design edge line** is too short & does not orient properly. The cancel is interfering. The solution is to load the Tools & use **Magic Button #2**. You can also load the original image into an image editor rotate the stamp by one degree either way & then reload the image and it will likely work as expected. It is very important that you **ALWAYS inspect the detection lines** to make sure they are as you would expect.



I Moved the Detection Lines Off Screen. How do I fix this?

When you are manually adjusting the detected perf & design lines, it is possible for you to move the Balls off screen. Once this is done, there is no way for you to manually move them back as they are no longer visible or accessible. To get them back, you can do several things



You can **Reload** the image by clicking the Reload icon on the Toolbar or



You can go to the **Toolbox** & use one of the **Magic Wands** to reload the image & process again. Each of these methods will get the lines back where they are visible so you can try again.



I Moved the Perf Lines Below the Design lines & I get an Error? I Moved the Design Lines Above the Perf lines & I get an Error?

When you are manually adjusting the detected perf & design lines, it is possible for you to move the perf lines below the design lines or the Design lines above the Perf lines. Although this is possible, you should not do this (there is no way for us to prevent you from doing this). If you move **both** of the perf lines of one side **below or inside** of the design lines & recalculate, you will get an [Error 999](#) message and will need to reload the image to proceed.

The same is true if you move **both** of the design lines of one side **above or outside** of the perf lines & recalculate. You will get an [Error 999](#) message and will need to reload the image to proceed.

You should be cautious to not do either of the above operations



The Perfs are being trimmed on Some Images? Why?

EzGrader expects the images to be on a clean **black** background and to be relatively un-skewed. If the background of your images do not have enough contrast relative to the perf tips, sometimes EzGrader can trim the perfs in its



attempts to determine where the perfs are.

Cleaning up the background & making sure not to crop the stamps too close to the perf tips will resolve this issue as is shown below.

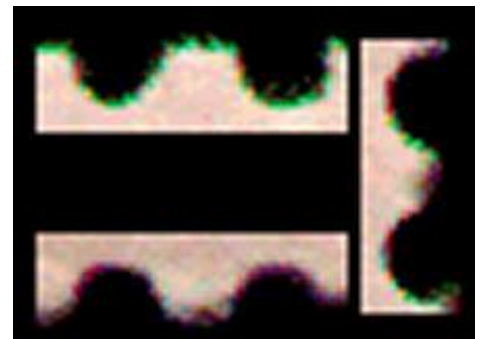


Appendix

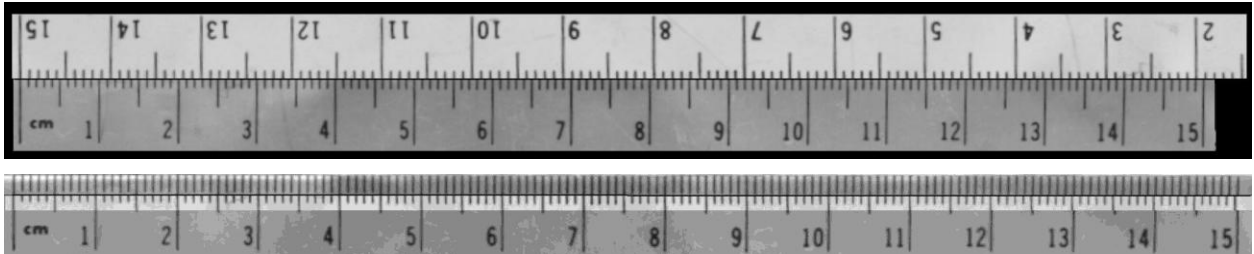
Check your Scanner for accuracy. We have found two serious mechanical defects in scanners that seriously distort the images they create. To date, we have found mention of either of these issues in the literature. Both problems are due to hardware defects within the scanner. Fortunately they are easy to detect.

Scanners have two basic components that determine resolution. The **light bar** carries a light bulb and the light sensors (CCD's). The spacing between the CCD's determines the **optical resolution** of your scanner. Most inexpensive scanners have 300 sensors per inch, giving an optical resolution of 300 pixels per inch (abbreviated **dpi**). Further, each sensor has 3 different CCD's. Each CCD measures a single color: red, green or blue. To generate a scan, the bar is moved across the scanner, recording separate measurements to create the second dimension in the image. Most scanners use a stepping motor to move the bar in the precise amount required.

The images at right demonstrate one of the problems. Images consistently show a red, green or blue halo on the **horizontal** edges, also referred to as a ghosting effect. It can be obvious, as in the first example, or subtle, but the distortion is in **every** image. We believe misaligned CCD's on the light bar cause the separate red, green and blue images that make up a scanned image to not line up, resulting in the mis-registration shown here. This can decrease the accuracy of EzGrader's measurements, especially at lower resolution.



A more common problem is caused by poor calibration of the stepping motor. At 300 dpi, the light bar must be moved exactly $1/300$ inch for each pixel. Any variation stretches or compresses your images. Checking your scanner for mis-calibration is simple. Make separate horizontal and vertical images of a ruler, and compare the lengths. Any difference you find should



affect all scans made with that scanner. These images show stretching of up to 15% on some scanners and as low as 1% on other scanners. You can determine your scanner's accuracy directly using this comparison.

The first of the above two images shows a scanner with a bad stepping motor and the second shows a good typical stepping motor. Unlike problems with the light bar, this could change over time. We suggest checking your scanner every month or so. Since the image itself is distorted, EzGrader's results will be skewed as well in a proportionate manner.

The real problem these deformations cause is with images from unknown scanners. Examples are images downloaded from the Internet or received from friends etc. We have seen examples of both defects. Mis-registration can only be determined by close examination of the image. EzGrader's **Edge Ratio** will help you spot mis-calibrated images. This ratio is fixed for any given stamp design, so any variation between copies of the same stamp is a sign of mis-calibration. Some editing programs have a feature that stretches or shrinks an image along one dimension, but use this only as a last resort. The cost is a decrease in accuracy.

If your scanner shows either defect, drop us a note. We'd like to know how widespread these problems are. Then, if warranted, we can include a mathematical correction in a future version of EzGrader.

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The SoftPro development team wishes to credit this work to the Lord our God, for without His guidance, EzGrader would not have been possible.

Matthew 21:22 And all things, whatsoever ye shall ask in prayer, believing, ye shall receive.

Mark 9:23 Jesus said unto him, If thou canst believe, all things are possible to him that believeth