

Software by Mike Robinson

# ***CHEERS! Blood Alcohol Calculator***

Calculate the percentage of alcohol in your blood after drinking

● Male ○ Female

Body Weight: 150 ● Pounds ○ Kilograms

Drinks: 3 Hours: 1

Blood Alcohol: 0.068  
Limit = 0.08

0 .04 .08 .12 .16 .20

Mild euphoria, feel warm, relaxed, less inhibited, talk & laugh loud, flippant remarks.

Advanced

Help

Exit

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## Summary

Enter your body weight, gender, number of drinks, and hours drinking and it calculates your [blood alcohol](#) level. The Cheers program is in the shape of a beer mug so it looks like a cute toy. It's fun and easy to use. But don't let looks fool you. It contains the very latest biological equations for the absorption and metabolism of alcohol.

The law says don't drink and drive. In all [50 states and most of Europe](#) you can be convicted of [drunk driving](#) if your blood alcohol level is over 0.08. But most people have only a vague idea of how drunk they are after a few drinks. Sure you can feel the effect of the alcohol, but exactly what is your blood alcohol level? This program will calculate your blood alcohol level based on the number of drinks, body weight, gender, and number of hours spent drinking. All of these factors enter into the calculation. A heavier person can drink more than a lighter person and still stay below the legal limit. A man can drink more than a woman and still stay below the limit. A person who spreads their drinking over a few more hours can drink more and still be legal.

I wrote this program for myself but it came out rather nice so I decided to distribute it. One day I was wondering how many drinks I could have and not be drunk in the eyes of the law. I did a lot of research and found the latest methods and equations on the metabolism of alcohol and put them into this program. In my case I can have about 3 beers in an hour and not go over the 0.08 limit. No more guesswork. And if I drink more than my limit I know I had better get a ride home.

This is a 32 bit program and will run on Windows ME, NT, 2000, XP, Vista, Windows 7, Windows 8, and

Windows 10. It also runs fine on 64-bit systems. This program contains no spyware, and no advertising

See the [bottom](#) of this page if you would like to [purchase](#) Cheers for just **\$10.00** US Dollars. This trial version will operate for 14 days. If you purchase the program I will send you a serial number by email that will enable continued operation with no time limit and enable all of the advanced features. Pay once and all future upgrades are free. Your serial number will work with all future versions.

This demo version will give you a good estimate of your blood alcohol level based on average values. If you purchase the program the [advanced features](#) will allow you to fine-tune the calculation to your body type including your height and age. In the program, click on the word [advanced](#) at the bottom of the beer mug to see these.

The advanced version also calculates and displays your [Body Mass Index](#) BMI based on your weight and height.

### The Basics

The program allows you to change several values used in the calculation of the blood alcohol level:

1. The sex (gender) of the drinker. Select male or female by clicking on the small circle at the top of the mug. A woman who is the same weight as a man and drinks the same number of drinks will have a higher blood alcohol level. More on this below in the paragraph titled " [Women get drunk easier than men.](#) "
2. The weight of the drinker. Select pounds or kilograms by clicking on the small circle. Weight is the most important factor. Heavier people can drink more because the alcohol is spread over a larger body mass.
3. The number of drinks consumed by the drinker.
4. The number of hours over which the drinks were consumed. If the drinking is spread over a longer period of time the body has a chance to eliminate some of the alcohol. The elimination rate varies from person to person. The average rate assumed by this program is 0.017 blood alcohol removed per hour. Many of the published charts that show blood alcohol for people of various weights do not include elimination rates.

Each time you change one of these values the percentage of alcohol in your blood is recalculated and displayed on the bottom of the beer mug in the box labeled "blood alcohol." If the blood alcohol goes over 0.080 the text turns red to warn you not to drive. This is the legal limit in all of the United States and most of Europe. If you go over the limit and drive you may find yourself looking at a policeman in your rear view mirror:



The policeman window above pops up to drive home the message not to drive. In the advanced version you can turn the policeman window off and also set the legal blood alcohol limit to 0.05, 0.08, or 0.10.

The blood alcohol is also shown as a horizontal bar graph.

The program has a several buttons in the form of text. Click on the words "help" or "exit" or "advanced" to perform these functions. Click and hold anywhere on the mug and you can drag it around the screen. The program will remember where you put it and appear there the next time you run it.

Right click on the mug and a menu pops up where you can select help, advanced features, purchase the program, about information, or exit the program.

### Advanced Features

If you [purchase](#) the program for \$10 (Ten US Dollars) you can change several additional values on the advanced page to get a more accurate blood alcohol calculation:

**Cheers Blood Alcohol Calculator**

Advanced | About

Thanks for purchasing this program

**Height:**  
 66 ☒ Inches ☐ Centimeters

**Age:**  
 30 Years

**Legal Limit**  
☐ 0.05  
☒ 0.08  
☐ 0.10

**Alcohol in Each Drink (US Ounces)**

- ☒ 12 Ounces Beer 5.0% Alcohol
- ☐ 16 Ounces Beer 5.0% Alcohol
- ☐ 12 Ounces Light Beer 4.2% Alcohol
- ☐ 16 Ounces Light Beer 4.2% Alcohol
- ☐ 1.0 Ounces Hard Liquor 80 Proof
- ☐ 1.5 Ounces Hard Liquor 80 Proof
- ☐ 1.0 Ounces Hard Liquor 100 Proof
- ☐ 1.5 Ounces Hard Liquor 100 Proof
- ☐ 5 Ounces Wine 11% Alcohol
- ☐ 19.2 Ounces (568 ml) Beer 3.7% UK Pint
- ☐ 9.60 Ounces (284 ml) Beer 3.7% UK Half Pt
- ☐ 0.85 Ounces (25 ml) Hard Liquor 80 Proof
- ☐ 4.23 Ounces (125 ml) Wine 12% Alcohol

**US Ounces Per Drink:** 12.0 **Percent Alcohol:** 5.0 %

**Body Mass Index =** 24.2

☒ Show Police ☒ Save On Exit

5. The drinkers height. Select inches or centimeters by clicking on the small circle. A tall person can drink more than a short person of the same weight because the tall person typically has more body water and less body fat. The alcohol you drink is dissolved in the water in your body, but does not dissolve in body fat. So if you have more water then the alcohol gets more diluted and your blood alcohol is lower.

6. The drinkers age in years. This factor only applies to men. If two men are the same height and weight, and drink the same amount, the older man will have a slightly higher blood alcohol. According to Watson's research and algorithm (references 2 and 3) the blood alcohol of a woman does not vary with age so that is what you see in this program.

7. The size of each drink in US ounces. One US ounce is 29.57 milliliters. This is the ounces of the entire drink. So, for example, if one drink is 12 US ounces of beer then enter the number 12.0. Unless you change

this value the program uses an average value as explained below in the paragraph titled "[The size of one drink](#)." The US ounce is used throughout this program. Note that the Imperial Ounce used in the United Kingdom is a bit smaller than a US ounce. A UK Imperial Ounce is 28.41 milliliters.

8. The alcoholic content of each drink in percent. For example, 80 proof hard liquor is 40 percent alcohol. Enter the percent, do not enter the proof. So for hard liquor enter the number 40.0, for 5% beer enter the number 5.0, for 4.2% light beer enter the number 4.2, and for 11% wine enter the number 11.0.

There is also a table of some common drinks. Pick one of these and the correct values for drink size and alcohol content are automatically put into the boxes on the bottom of the form. If you do not purchase the program then average values are used for each of these. You will still get a fairly good blood alcohol estimate based on the average values.

On the bottom of the table are 4 common United Kingdom drink sizes such as an Imperial Pint and Imperial Half-Pint. These have been converted to US Ounces. So a UK Imperial Pint (568 milliliters) is 20.0 UK Imperial Ounces but only 19.2 US Ounces. Standard beer alcohol content in the United Kingdom is about 3.7 percent while in the US and most of Europe standard beer alcohol content is about 5.0 percent.

In the box in the upper right you can select a legal blood alcohol limit of 0.05, or 0.08, or 0.10. All of the United States and most of Europe have a 0.08 legal limit so that is the default value. This limit does not change the calculations, but it does change the threshold for the over-the-limit warnings.

The purchased version also calculates and displays your [Body Mass Index](#) BMI based on your weight and height. A BMI less than 25 is considered normal weight, between 25 and 30 is considered a bit overweight, and over 30 is considered obese.

That is all there is to it. This program looks like a toy and is very simple to use, but don't let looks fool you. It uses the very latest biological equations for the absorption and metabolism of alcohol. Watson's method is used. See the references at the end of this page for more details on the calculation methods.

### The size of "one drink"

The program uses the following values for one drink. These values are fixed in the demo version. The advanced version allows you to enter custom values. All of these drinks contain the same amount of alcohol. So if you drink 12 US ounces of beer, and then drink 1.5 US ounces of 80 proof whiskey, you have consumed 2 drinks.

12.0 US ounces of regular beer 5.0% alcohol  
14.3 US ounces of light beer 4.2% alcohol  
1.5 US ounces of hard liquor such as whiskey 40% alcohol (80 proof)  
1.2 US ounces of hard liquor 50% alcohol (100 proof)  
5.5 US ounces wine 11% alcohol

All of the drinks listed above are equivalent and contain 0.6 US ounces of pure alcohol.  
For example  $(12 \text{ US ounces beer} \times 0.05) = 0.6 \text{ US ounces pure alcohol}$ .

For purposes of blood alcohol calculation the only important factor is the amount of pure alcohol. The type of drink (bourbon, scotch, beer, wine) does not matter as long as the amount of pure alcohol contained in each drink is the same.

You may have seen small charts or wallet cards that show blood alcohol levels for different body weights and number of drinks. The size of one drink on these cards varies and sometimes the equivalencies are only approximate. For example, many cards say that 12.0 US ounces of beer is equivalent to 5.0 US ounces of wine. But they are not exactly equal:

$(12 \text{ US ounces beer} \times 0.05) = 0.60 \text{ US ounces pure alcohol}$ .

$(5 \text{ US ounces wine} \times 0.11) = 0.55 \text{ US ounces pure alcohol}$  which is about 8.3 percent less.

And it is clear that 12 US ounces of regular beer is not the same as 12 US ounces of light beer which has less alcohol:

$(12 \text{ US ounces regular beer} \times 0.050) = 0.60 \text{ US ounces pure alcohol}$ .

$(12 \text{ US ounces light beer} \times 0.042) = 0.50 \text{ US ounces pure alcohol}$  which is about 16.7 percent less.

For more information on alcohol in drinks see:

[Wikipedia - Blood Alcohol](#)

[Alcohol Doses, Measurements, and Blood Alcohol Levels](#)

[About Alcohol - Indiana Prevention Resource Center](#)

### Number of calories in drinks

If you are on a diet you might also be interested in number of calories in one drink of each type:

12.0 US ounces of regular beer is 148 calories.

14.3 US ounces of light beer is 122 calories.

1.5 US ounces of hard liquor (80 proof) is 98 calories.

1.2 US ounces of hard liquor (100 proof) is 98 calories.

5.5 US ounces wine is 110 calories.

Since each of these contains 0.6 US ounces of pure alcohol, my conclusion is that hard liquor gives you the most "bang for the buck" meaning you consume fewer calories to get the same amount of alcohol. Wine has a few more calories, light beer a few more, and regular beer has the most calories. In fact, for the same amount of pure alcohol, regular beer has about 50 percent more calories than hard liquor, and regular beer has about 20 percent more calories than light beer.

One of the reasons light beer has fewer calories is that some of the alcohol has been removed. (Pure alcohol is about 163 calories per US ounce.) But some of the carbohydrates other than alcohol have also been removed so light beer has fewer calories for the same amount of pure alcohol. In the example above 14.3 ounces of light beer is used in order to get the same amount (0.6 US ounces) of pure alcohol. Note that a typical 12 US ounce can of light beer only contains about 102 calories partly because it contains less (0.5 US ounces) pure alcohol.

### Women get drunk easier than men

Here is why. The alcohol you drink is dissolved in the water in your body. So if you have more water then the alcohol gets more diluted and your blood alcohol is lower. But alcohol does not dissolve in body fat. Women have a higher percentage of body fat. So if a man and a woman weigh the same, the woman has more fat (and less water) in her body. This fat, when correctly placed on a woman's body, is a good thing. And getting drunk easier has proven to be an important factor in the propagation of the species. It is also true that men, on average, weigh more than women, so blood alcohol in men is further reduced by the weight factor as well.

### Big people can drink more

Alcohol is dissolved in body water. A person who weighs 200 pounds has twice as much water as someone who weighs 100 pounds. So the 200 pound person can drink twice as much and still have the same blood alcohol level. [Body Mass Index](#) also matters. A tall person can drink more than a short person of the same weight because the tall person has more water and less fat. The advanced settings in this program allow you to enter your height for a more accurate estimate of blood alcohol level.

### Install



As an Administrator run the program [cheers-setup.exe](#) to install the program. The install program will overwrite any previous version so you are not required to uninstall older versions. The install program will create a folder, copy all the files to the folder, and create shortcuts on the desktop and the start menu. This is a 32-bit program designed for Windows 98, ME, 2000, NT, XP, Vista, Windows 7, Windows 8, and Windows 10. It also runs fine on 64-bit systems. The installed size of the program is less than 2 megabytes. The program saves its settings in the [Windows Registry](#) when you exit from the program.

An alternate install method is to download the executable file [cheers.exe](#) and then just run the program. You can create your own Desktop or other shortcut links.

## Uninstall

Open Windows Control Panel, select Programs and Features, select the program in the list of programs, and click the uninstall button, or right click on the program and select Uninstall in the menu. The Windows uninstall system will then run and remove the program. These steps are for Windows 10 and may be slightly different in other Windows versions.

If you installed the program manually then delete the files to uninstall the program, and also delete any Desktop or other shortcut links.

Then delete this entire key in the [Windows Registry](#) :

HKEY\_CURRENT\_USER\SOFTWARE\Michael\_Robinson\Cheers

## Saved Settings

When the program closes it remembers all of its settings by saving them in the [Windows Registry](#). It saves the gender, weight, number of drinks, and the number of hours spent drinking. If you purchase the program it also saves the advanced settings: height, age, number of US ounces per drink, and alcohol content of each drink.

## Support

Send your questions and comments to: [ElegantPie@HotMail.com](mailto:ElegantPie@HotMail.com)

I fully support this program and will usually answer within 24 hours.

The latest version is always available on my Home Page:

<https://www.elegantpie.com>

## Legal Stuff

This program is Copyright © 2003 Michael Robinson. All Rights Reserved. Use this program at your own risk. If you purchase this program and are not satisfied with it for any reason I will refund your money. You may give this file away free, but you may not sell it. It must be distributed as a package along with all files. Modification of the executable file is prohibited.

This software is for educational purposes only. It is NOT to be used to determine fitness for driving a motor vehicle, operating machinery, or any other activity.

## References

1 Widmark EMP. Principles and Applications of Medico Legal Alcohol Determination. English translation of the 1932 German edition with permission of Urban Schwarzenberg. Davis: Biomedical Publications, 1981.

- 2 Watson PE. Total Body Water and Blood Alcohol Levels: Updating the Fundamentals. In Crow KE and Batt RD eds. Human Metabolism of Alcohol. Boca Raton: CRC Press, 1989.
- 3 Watson PE, Watson ID, Batt RD. Prediction of blood alcohol in human subjects. Updating the Widmark equation. Journal of Studies on Alcohol 1981; 42:547-56.
- 4 Lewis MJ. The individual and the estimation of his blood alcohol concentration from intake, with particular reference to the 'hip-flask' defense. Journal of the Forensic Science Society 1986; 26: 19-27.
- 5 Forrest ARW. The estimation of Widmarks's factor. Journal of the Forensic Science Society 1986; 26: 249-52.
- 6 Cowan JM et al. Determination of Volume of Distribution for Ethanol in Male and Female Subjects. Journal of Analytical Toxicology 1996; 20: 287-290.
- 7 Rockerbie DW and Rockerbie RA, Computer Simulation Analysis of Blood Alcohol. Journal of Clinical Forensic Medicine, 2, 1995; 137-41.

### Revision History

2.0.0 Dec 01, 2003 Initial Public Release.

2.2.0 Mar 8, 2007 Update for Windows Vista.

2.3.0 May 20, 2007 Update for Windows Vista.

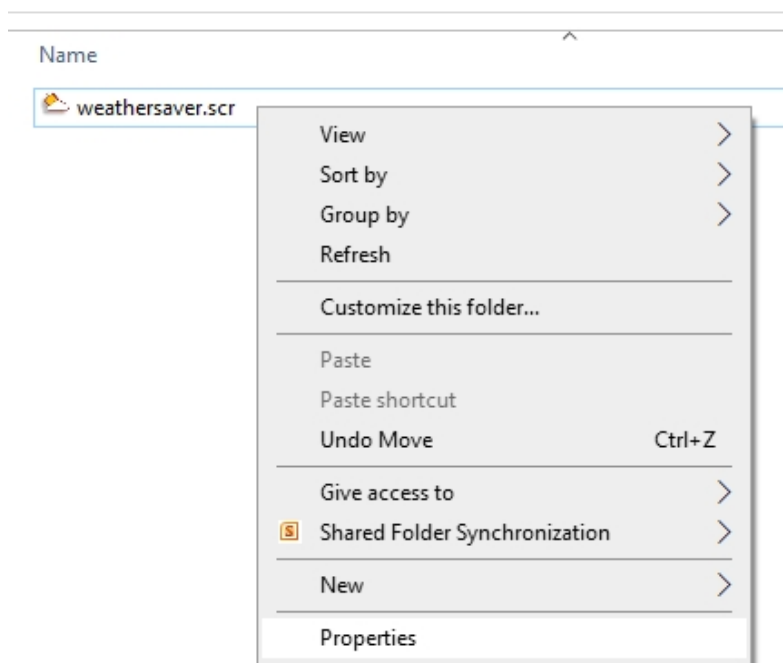
2.3.2 Sep 15, 2016 Added [Body Mass Index](#) BMI Calculation to the purchased version. Changed from old [Microsoft Compiled HTML Help](#) file with file extension .htm to single-document [MHTML](#) file with file extension .mht that can be viewed in any web browser. Also updated help text for Windows 10.

2.3.3 Aug 10, 2021 Digitally Signed cheers.exe and cheers-setup.exe. Help file is now cheers.pdf

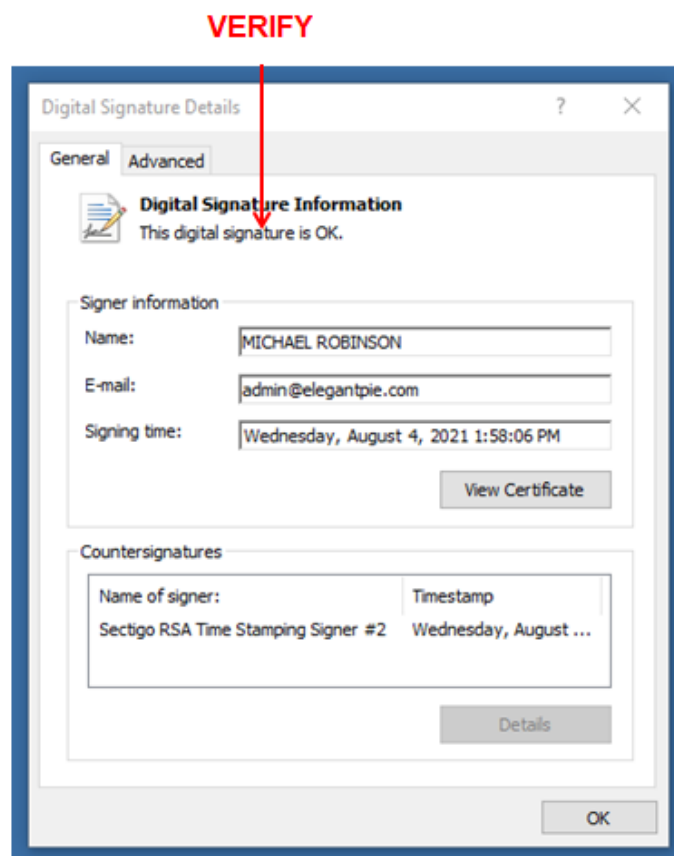
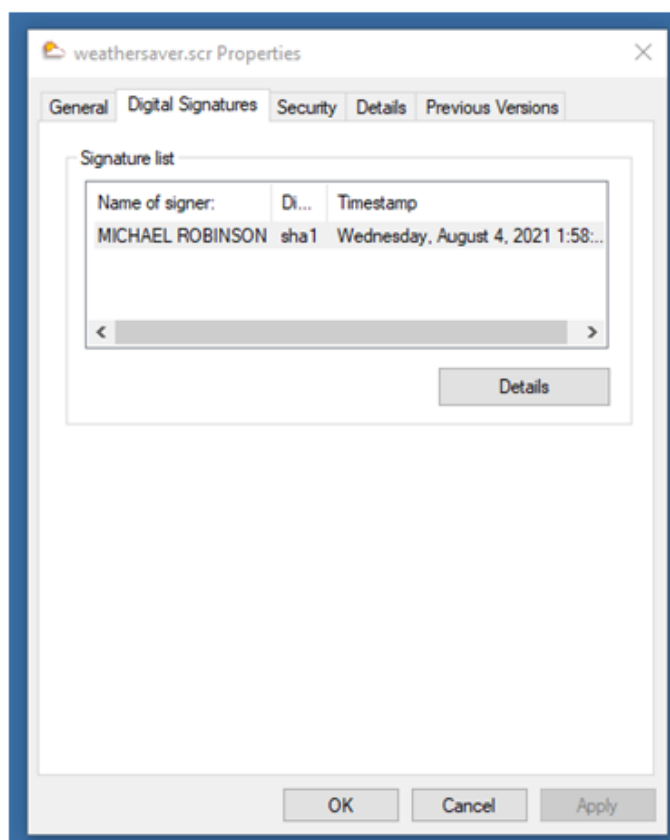
### Digital Signature

I purchased a [Code Signing](#) Certificate from [Certificate Authority \(CA\)](#) company [Sectigo](#) and used it to digitally sign (and timestamp) program executable file cheers.exe and install program cheers-setup.exe. The signature says it was signed by MICHAEL ROBINSON. Code Signing proves that the program actually came from me and has not been modified by a hacker since it was signed.

Run Windows File Explorer (explorer.exe) right click on the file and select Properties:

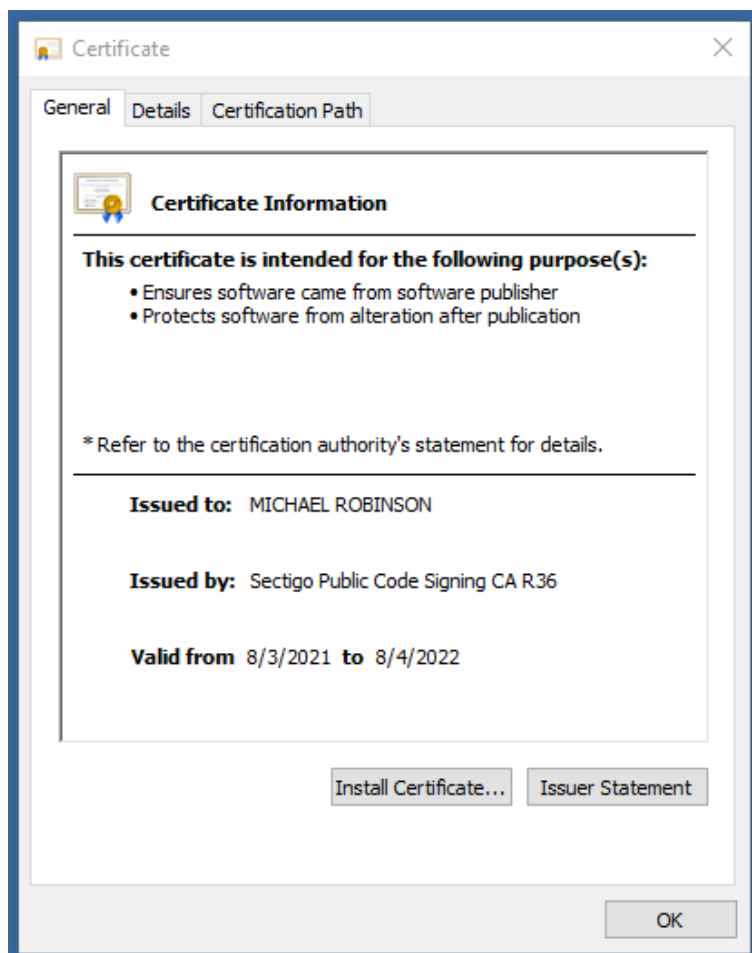


Then click on the tab Digital Signatures, and click the Details button:



Then click the View Certificate button to see my certificate:





### Purchase

Advanced features are only available in the *PURCHASED* version. The purchased version also has no time limit.

If you purchase this program and are not satisfied with it for any reason I will refund all of your money with no questions asked.

This trial version will operate for 14 days. If you purchase the program I will send you a serial number by email that will enable continued operation with no time limit and enable all the advanced features. Pay once and all future upgrades are free. Your serial number will work with all future versions. This program contains no spyware, and no advertising.

The purchase price is **\$10.00** (Ten US Dollars). I accept major credit cards using PayPal, [PayPal](#), or personal checks or money orders in US Dollars sent by land mail. You can get a money order at any US Post Office and at some stores. Pay once and all future upgrades are free.



Send payment by [PayPal](#) to: [ElegantPie@HotMail.com](mailto:ElegantPie@HotMail.com)

Or send personal check or money order payable to Michael Robinson

Michael Robinson  
PO Box 95  
Shelton, CT 06484

Serial number to enable all advanced features will be sent within 24 hours by email.



I am PayPal Verified. My Account Creation Date is May 30, 2000. Yes, I have been using

this PayPal account for over TWENTY years.

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I use PayPal because the fees are low. If you send me \$10.00 PayPal only takes about \$0.84 so I net \$9.16. All other payment services take several dollars so I would have to charge around \$15 for my program to gain the same net. This lowers the cost to you. PayPal is usually free for most transactions, such as Ebay auction payments, but as a business I am required to have a Premier Account with fees. If you do not have a PayPal account, you can still use PayPal to make a payment using your credit card. PayPal does not charge you any fees for this. PayPal is a very secure and reliable payment system used by millions of people around the world.

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