

# R10Cipher

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Cross Platform Text and File Encryption / Cipher Tool

Mac OSX  
Windows XP  
Windows Vista  
Windows 7  
Linux



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## Registering R10Cipher

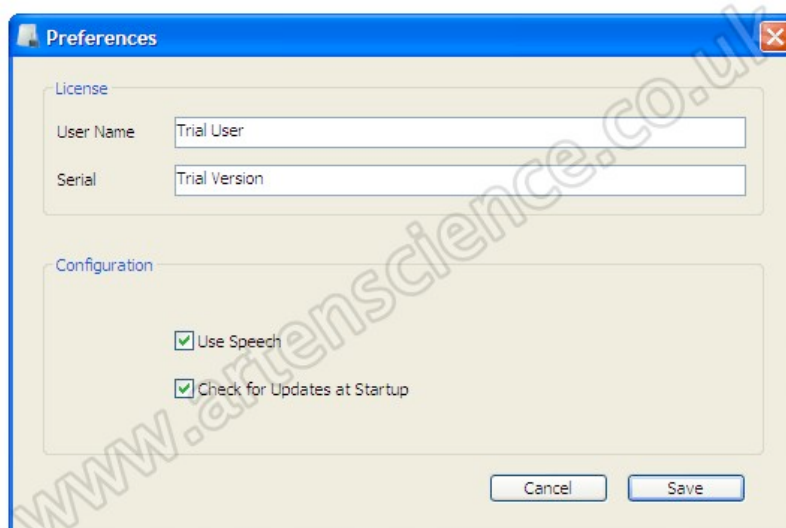
After downloading R10Cipher and deciding that you would like a full working copy, you can purchase this directly at the following web address:

<http://www.artenscience.co.uk/artenscience/Pages/R10Cipher.html>

Once you have done this we are automatically notified of your purchase and a User Name and Serial Number are sent out to you via email. The Serial Number is tied to your Name and the two must be used in conjunction.

Note: R10Cipher Version 2.x needs a different serial number to Version 1.x. Existing 1.x users can upgrade to Version 2.x for the cost of the difference between the two editions. Please contact [upgrade@artenscience.co.uk](mailto:upgrade@artenscience.co.uk) for further details.

When you receive the serial number email you should launch R10Cipher and access the Preferences menu item. The Preferences window that opens will look slightly different depending on the Operating System that you are using, they are all however very similar and contain identical information. The Preferences window for Windows XP looks like this:



The User Name and Serial Number that you received in your email from Arten Science should be entered into the appropriate fields on the Preferences window. To avoid typing errors we suggest you Copy / Paste the information.

If the information is correct the Trial Version Overlay / Window will disappear and the product is then fully licensed. Keep the email from Arten Science safe as you will need it should you need to reinstall in future on a new computer.

Our licensing allows one purchase to be installed on two computers that you own, for example your desktop and also your laptop. Please respect our efforts and purchase additional licenses if you need to install on multiple computers. We also offer site licenses for corporations.

Any problems with registration, please email us at: [support@artenscience.co.uk](mailto:support@artenscience.co.uk)

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# Introduction

R10Cipher is a simple but extremely powerful Cross Platform Encryption / Decryption tool.

R10Cipher takes text or files and encrypts them using up to 128 bit Blowfish encryption. **These files can be Word files, Excel files, MP3 files - almost any kind of file.**

These encrypted files can be copied elsewhere, even to a different operating system and unencrypted by anyone in possession of the shared key that was used for the encryption.

If encrypting text, this Cipher Text can then be copied into an email, saved as a file and attached to an email or just copied elsewhere and the recipient can use R10Cipher to open the file and view the encrypted contents, assuming they are in possession of the Shared Key that was used to encrypt the document in the first place.

If encrypting a file the encrypted file can be stored or sent in the full knowledge that its contents are not visible to anyone without access to R10Cipher and the Shared Key.

Decryption can be carried out just by double clicking the encrypted file and entering the Shared Key. R10Cipher supports batch encryption by 'drag and drop' to make encryption fast and painless, even when dealing with dozens of files.

As R10Cipher does not require installation you can for example copy the Mac and Windows versions of R10Cipher to a USB drive along with your encrypted documents and files. Your documents and files are secure, but available whenever and wherever you require them.

Many people do not realise that sending an email is the equivalent of sending a postcard, its contents are easily visible. For many companies, individuals and markets this is totally unacceptable and with the potential complexity and setup issues with the Public Key Encryption systems it makes sense to encrypt using a utility such as this.

*R10Cipher can also be used in conjunction with [Sicuro](#) our 'Data Vault' software that will be available Feb/March 2009. We have added the functionality of R10Cipher to Sicuro, so a user of Sicuro and a user of R10Cipher can share encrypted documents with no problems.*

R10 Cipher, like most software, is a work in progress. We need your feedback to make R10Cipher the best Cross Platform Encryption Tool available. Contact us with your suggestions and comments.

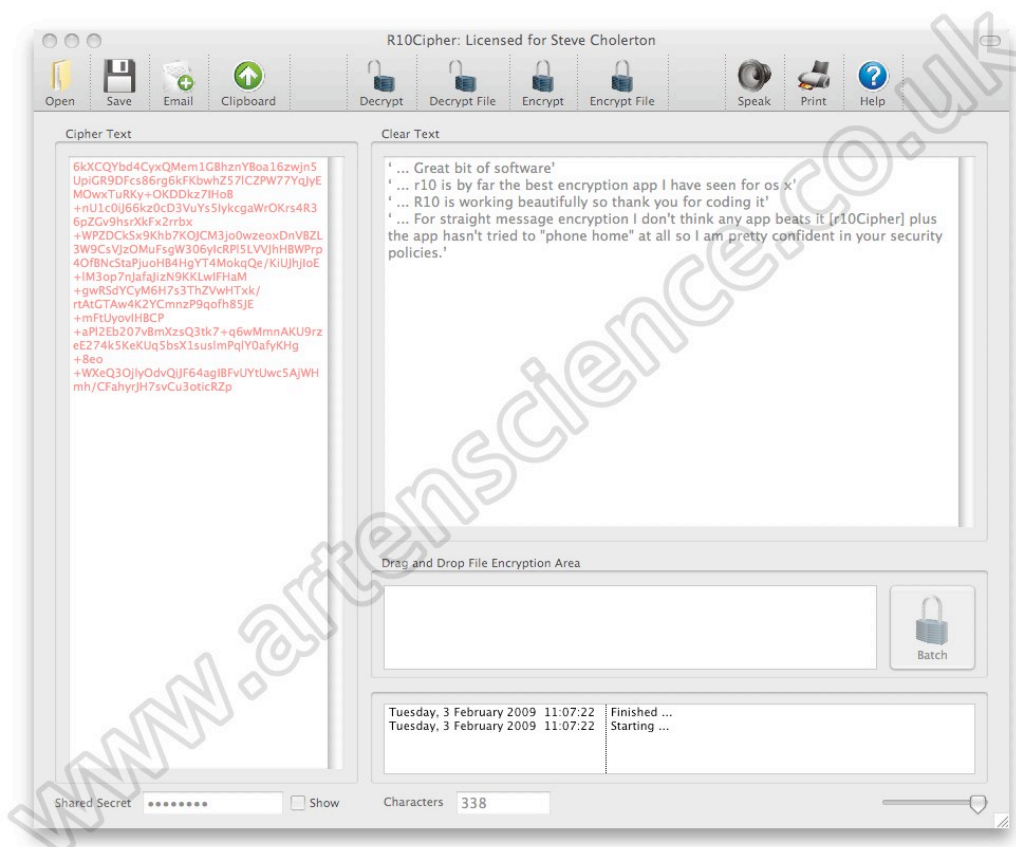


## Quick Start, Text Encryption

After downloading, unzip the file. Depending on your browser settings your operating system may do this automatically for you. Drag the file / folder to a convenient location on your hard disk. Double click the R10Cipher file to launch the program.

*Note: Users of Linux may have to view the file permissions and set the 'execute' flag.*

You will see the R10Cipher main screen. The OSX version is shown below:



Enter your Shared Secret (this is your encryption key) into the area at the bottom left of the screen. This can be between 4 and 16 characters. For example: yuetrtytpl\*565r0.

Enter the message or text you wish to encrypt into the Clear Text area. You can right click and Paste the text, or use Drag and Drop if you wish.

Select the Encrypt option from the toolbar.

You now have a number of options: Copy the Encrypted text from the Cipher text area and Paste it into an email or document. Alternatively use the Save button on the toolbar and save the Encrypted text as a document, you may then attach it to an email if you wish and send it to the other party. You can even click the Email button and an email will be opened for you with the encrypted text as the message.

To Decrypt a message or text, open an Encrypted document using the Open button on the toolbar or Paste / Drag the Encrypted text into the Cipher Text area. Enter the Shared Secret and Select the Decrypt button on the toolbar to view the Decrypted contents.

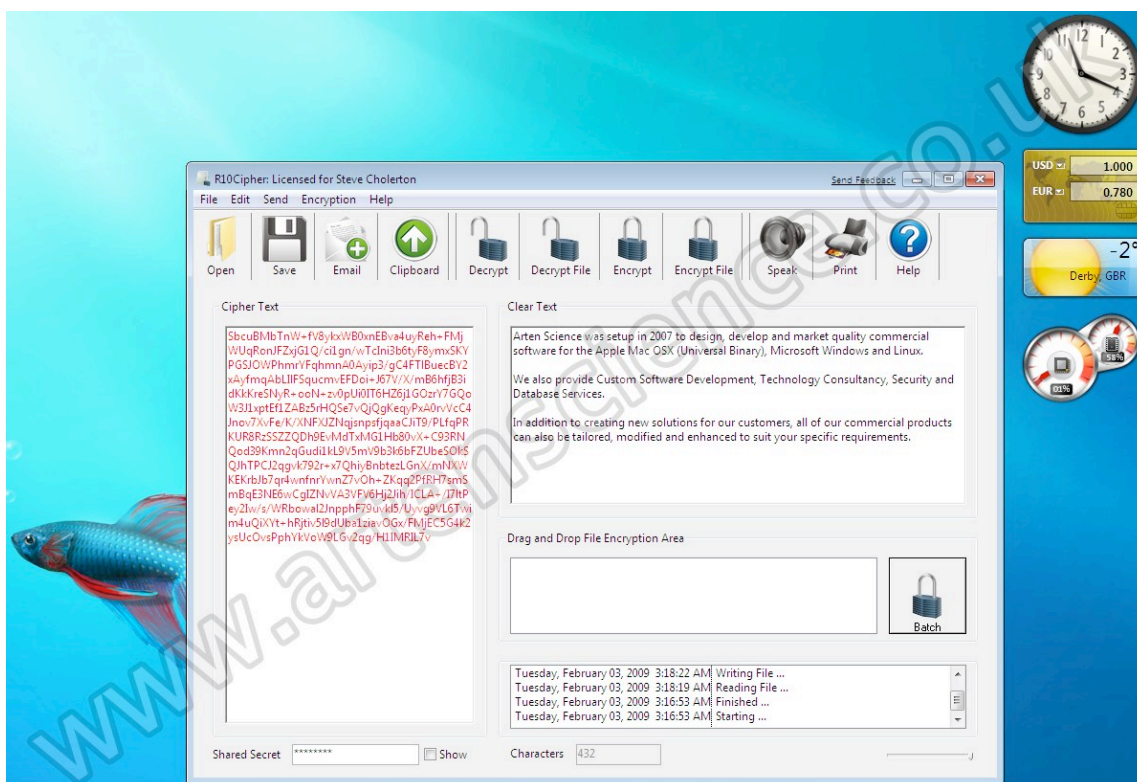
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## Quick Start, File Encryption

After downloading, unzip the file. Depending on your browser settings your operating system may do this automatically for you. Drag the file / folder to a convenient location on your hard disk. Double click the R10Cipher file to launch the program.

*Note: Users of Linux may have to view the file permissions and set the 'execute' flag.*

You will see the R10Cipher main screen. The Windows 7 version is shown below:



Enter your Shared Secret (this is your encryption key) into the area at the bottom left of the screen. This can be between 4 and 16 characters. For example: yuetrtytpl\*565r0.

Click the 'Encrypt File' toolbar button, or use the menu option and select the file that you wish to encrypt.

Enter the proposed name for the encrypted file. If you accept the default, which we recommend, the filename remains the same but the file extension is changed to .r10Enc.

The feedback area in the bottom right of the window will inform you when the encryption is complete. For average size documents and files the encryption will be virtually instantaneous.

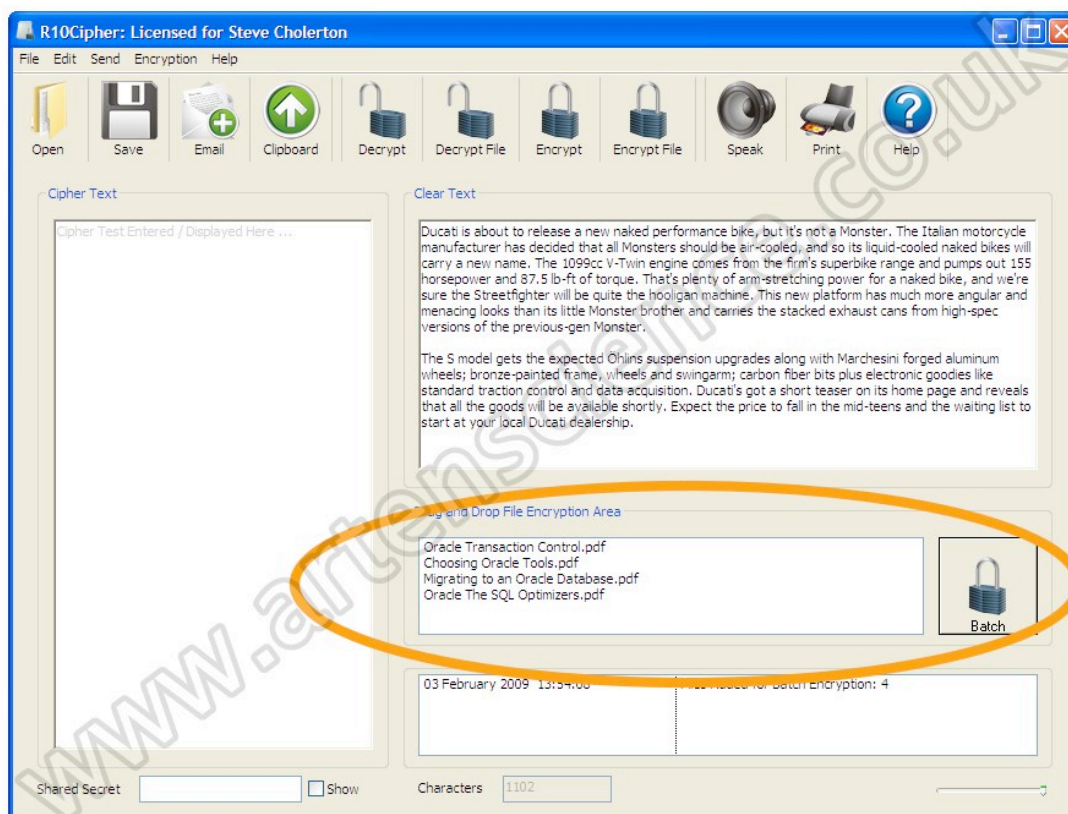
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## Quick Start, Drag and Drop Multiple File Encryption

After downloading, unzip the file. Depending on your browser settings your operating system may do this automatically for you. Drag the file / folder to a convenient location on your hard disk. Double click the R10Cipher file to launch the program.

*Note: Users of Linux may have to view the file permissions and set the 'execute' flag.*

You will see the R10Cipher main screen. The Windows XP version is shown below with the Drag and Drop Encryption Area highlighted:



Enter your Shared Secret (this is your encryption key) into the area at the bottom left of the screen. This can be between 4 and 16 characters. For example: yuetrtypl\*565r0.

Drag one of more files into the Drag and Drop Encryption Area (highlighted above). Press the Batch button to the right of the list of files.

The encrypted files will be saved to your desktop with the same filenames as the originals but with the file extension .r10Enc.

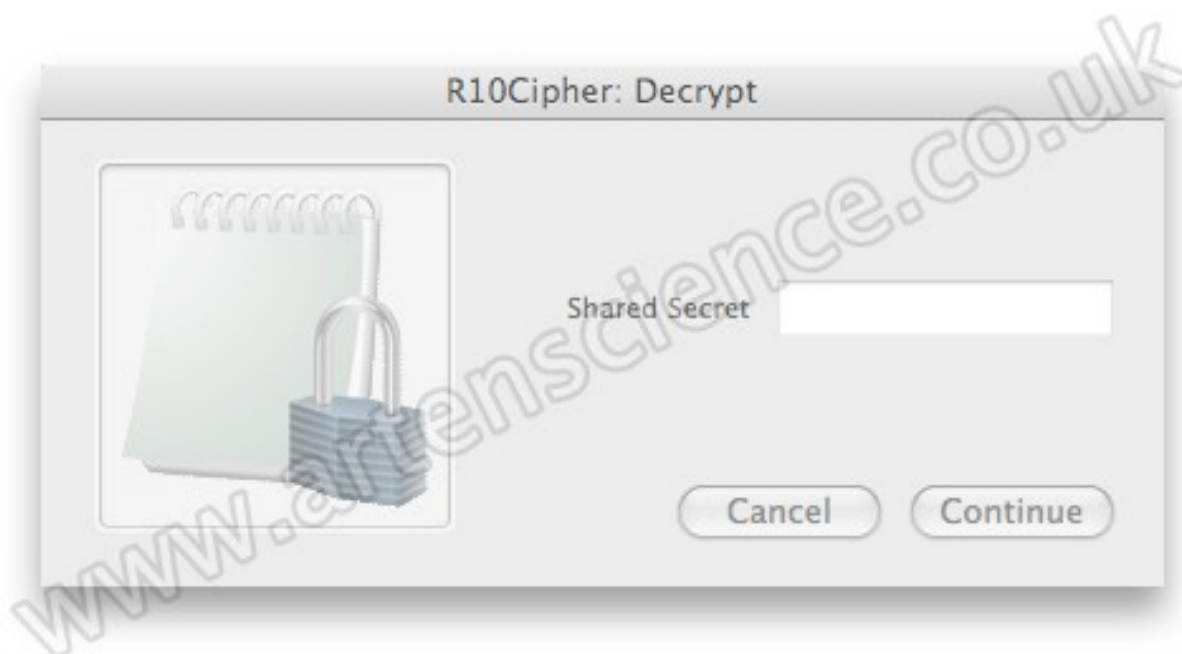


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## Decrypt by Double Click

R10Cipher Version 2 attempts to make working with encrypted files as simple as possible. Therefore any encrypted file can be decrypted just by double clicking the encrypted file.

Following the double click you see this window:



All you have to do is enter the Shared Secret and the file will be decrypted and saved on your Desktop with the same name as the original, pre-encrypted file.

*NOTE: Before you use this feature for the first time you may need to associate the R10Enc files with the R10Cipher Software. How you do this depends on your Operating System. We have instructions in the Addendum for Mac OSX and Windows XP.*

## Zero Effort Corporate Licensing

Another new feature in Version 2 is the ability to license the program for the user just by deploying a file to them, maybe via email, which they they drag into their R10Cipher folder. If R10Cipher is currently running as a Trial Version the file will be read next time the program is started and the program automatically licensed.

The file can then be deleted.

The file must be named as follows:

R10Cipher\_License.ini

and the contents must be in plain text format and read as follows:

<pUserName>Name Goes Here</pUserName>  
<pSerial>Serial Number Goes Here</pSerial>

In a multi desktop environment Zero Effort Licensing saves time and effort and provides a painless way to license your Arten Science product.

If purchasing a corporate version of R10Cipher you can request that we send you the license file you need, instead of just the serial number and user name that we usually provide.

# Windows

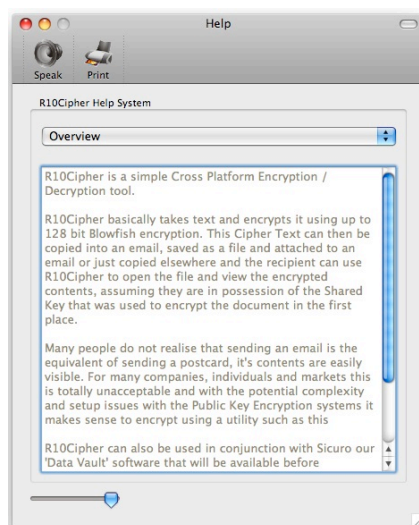
## The Main Window

This is where the majority of interaction with R10Cipher is carried out. Each toolbar button has a tooltip which is visible when you hover your mouse cursor over the button for a second. Note the 'slider' in the bottom right of the window. This slider controls the transparency settings for the window. Transparency settings as well as window size and position are saved when you quit the software. The Main Window running on Ubuntu Linux is shown below:



## The Help Window

The Help Window is accessed from either the Help option on the Menu or via the Help button on the Toolbar. You can choose a number of help topics from the drop down menu. The Help window from Mac OSX is shown below:



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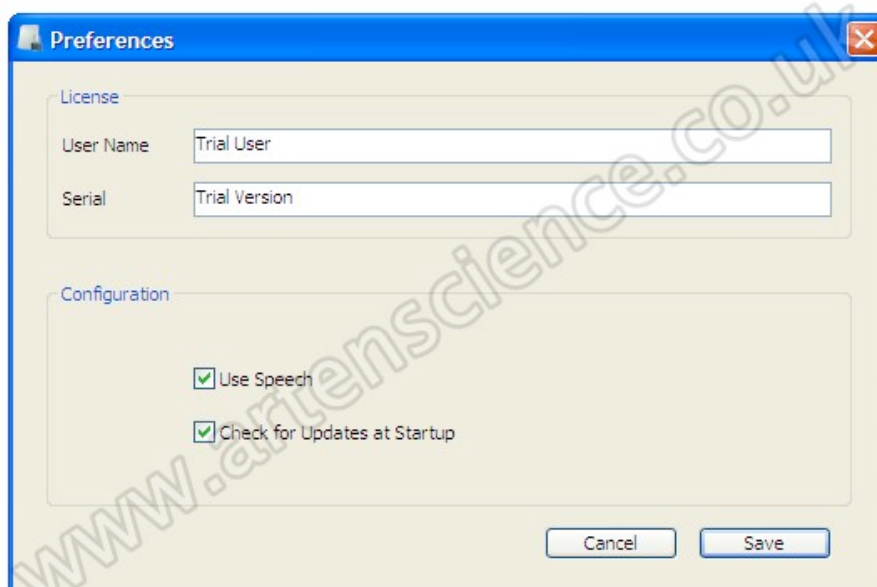
## The About Window

The About Window is accessed from the Menu and displays information relating to R10Cipher, Copyright, Version and other information. The About Window from Mac OSX is shown below:



## The Preferences Window

The Preferences Window is where you input your user name and serial number and where you can set the preferences for R10Cipher. The Preferences Window from Windows XP is shown below.

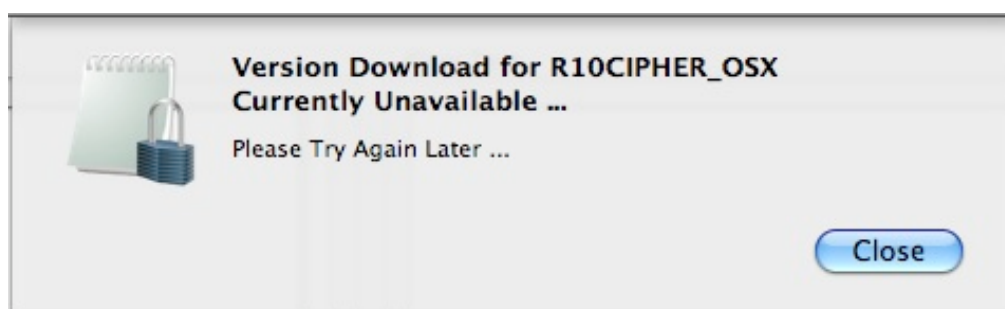


## Menus

The menu options for certain actions such as About and Preferences display in different places on the menu bar according to the interface guidelines defined by the operating system. Therefore the order of these menu option descriptions may differ depending on your operating system platform. The order I have used is left to right, top to bottom for Mac OSX.

### Check for Updates

This option manually checks for updates to R10Cipher. If an update exists you will be given the option to download it. If it doesn't you will see a screen similar to this:



### About R10Cipher

This option displays the About window as detailed previously.

### Preferences

This option displays the Preferences window as detailed previously.

### Send Feedback

This option opens your email client with a new message. This message contains information about the version of the software you are running, as well as which operating system you are using. You can add text to this email to send us information, requests or feedback as appropriate.

### Visit Our Website

This option opens our website in your default internet browser.

### R10Cipher Help

This option opens the Help window as detailed previously.

The other menus duplicate functionality that is available from the toolbar buttons, described in the next section.

# Buttons



## Open

This button opens an encrypted document and displays it in the Cipher Text area of the main window.

## Save

This button saves the Cipher Text to a file.

## Email

This button opens a new message in your default email client and sets the subject appropriately. The message body contains the Cipher Text. Type the email address of the recipient and click send.

## Clipboard

This button copies the entire Cipher Text to the system Clipboard.

## Decrypt

This button takes the encrypted Cipher Text and decrypts it and displays the decrypted content in the Clear Text area of the main window.

## Decrypt File

This button decrypts a file on your computer.

## Encrypt

This button takes the Clear Text, encrypts it using the Shared Secret and displays the encrypted content in the Cipher Text area of the main window.

## Encrypt File

This button encrypts a file on your computer.

## Speak

(Not Linux) This button uses the speech synthesizer capabilities of your computer to speak the contents of the Clear Text area.

## Print

This button prints the contents of the Clear Text area.

## Help

This button opens the Help window, discussed previously.

# Usage Scenarios and Examples

## Example 1: One to One Private Communications

Bill and Ted want to discuss plans for their next Excellent Adventure. Knowing that their email can be easily read they decide on a Shared Secret 'Bill+Ted=Wyld'. They type their discussions into R10Cipher and save the encrypted text as a file which they attach to their emails. They are now secure in the knowledge that no-one can foil their plans.

## Example 2: One to Many Private Communications

Bill and Ted decide they want to involve the Historical Babes in some of their plans, but not all. The four of them agree a Shared Secret and now Bill and Ted can communicate between themselves using their own Shared Secret and if they wish to include the Historical Babes they use the second Shared Secret agreed between the four of them.

## Example 3: One to Many Private Communications over a Public Medium

Frodo is setting off on his next adventure and as is the fashion nowadays he wants to update the world with his travels via an online blog. With his new Macbook Air this will work great but there is some information he wishes only to be read by Merry and Pippin who are holding the fort for him back in Hobbiton.

Before he sets off the three of them agree on a Shared Secret and as Frodo updates the world via his blog he uses R10Cipher to append an encrypted entry on the end, knowing that the world can see but not understand his instructions, which are only for the eyes of Merry and Pippin.

## Example 4: The benefits of Cross Platform

Unfortunately, small and sexy though it is, the Macbook Air is just a little bit too big (and lets face it - expensive - to take across Middle Earth, what with the Orcs and all. At the last minute Frodo switches to a Dell Mini 9 running Linux which came free with his mobile broadband card. Luckily R10Cipher works as well on Linux as it does on the Mac so Frodo has no need to change his plans.

## Example 5: R10Cipher Not Just for Men

While Frodo is off on his travels his wife, feeling lonely, takes a lover. Knowing that the local Hobbiton ISP takes quite an interest in the emails to and from the villagers, they both use R10Cipher to arrange their rendezvous. Even hobbits need loving, besides it was rather selfish of Frodo to disappear like that for months at a time - and who knows what he got up to with Sam on that first journey ?

## Trial Version Limitations

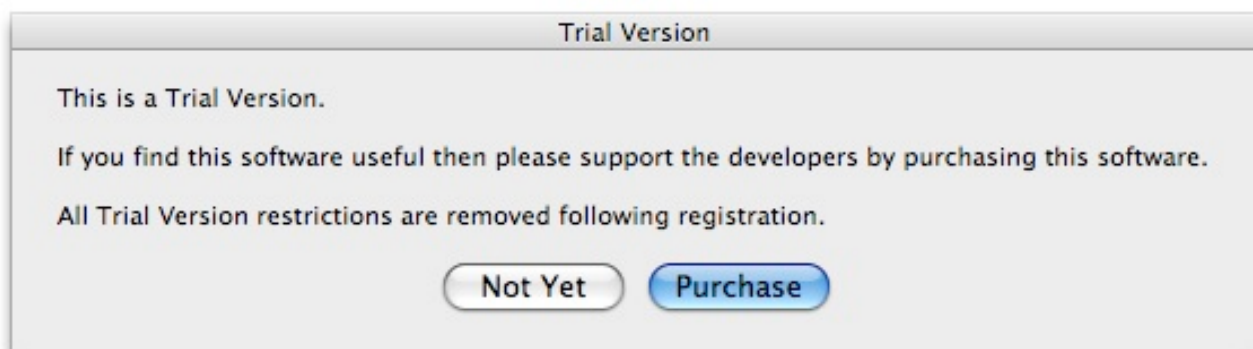
The Trial Version of R10Cipher is limited to encrypting text not exceeding 140 characters. The decryption routine is not restricted at all.

In addition, on the Mac, a semi-transparent overlay is displayed in the centre of the monitor stating 'R10Cipher Trial Version'.

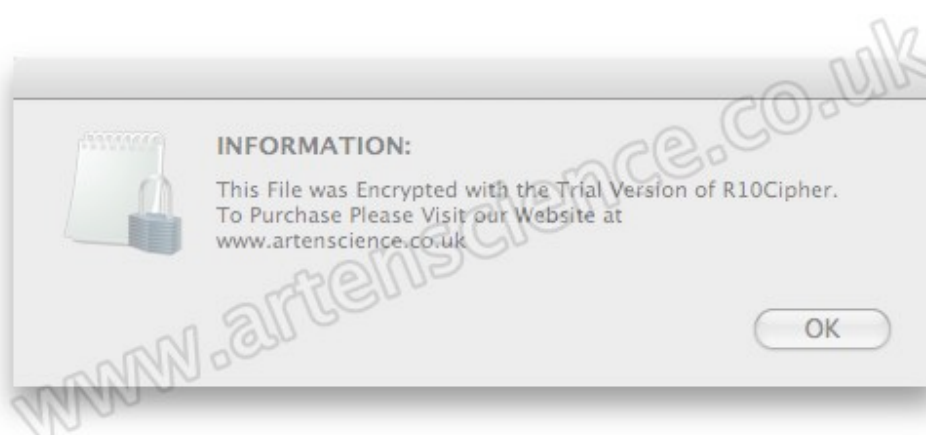
**R10Cipher Trial Version**

On Windows and Linux a window is displayed with the same information shown.

At program startup you will also see the following window, which can be dismissed either by pressing the Purchase or Not Yet buttons.



Encryption of files is not restricted, but when decrypted you see a window that reminds you that the Trial Version was used to encrypt them:



If you have any questions or need any support please do not hesitate to contact us at [r10cipher@artenscience.co.uk](mailto:r10cipher@artenscience.co.uk)

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## Version History

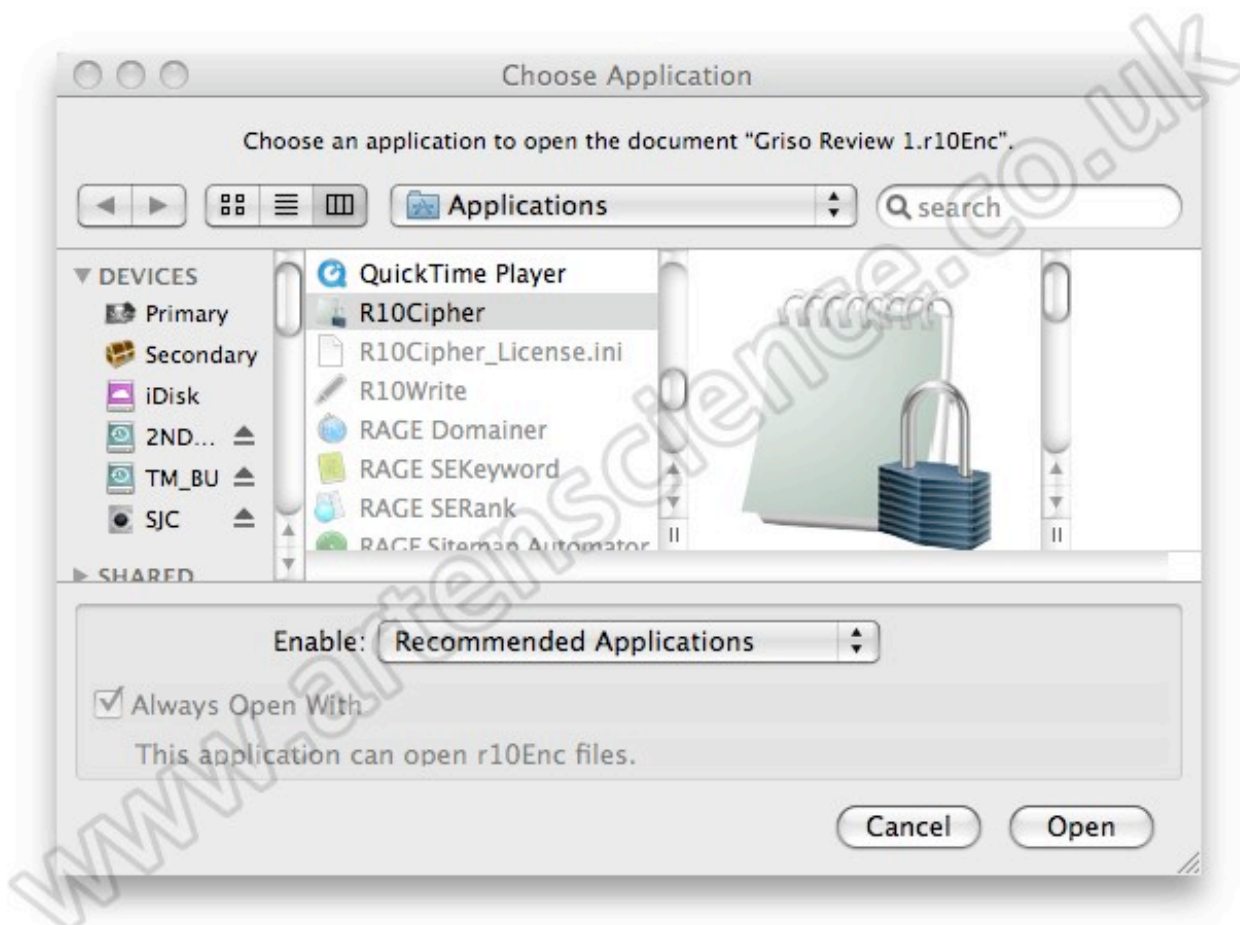
1.0.0	November 24th 2008	Initial Stable Release
1.0.1	November 26th 2008	Copy to Email button Copy to Clipboard Button Show 'Shared Secret' Checkbox Revised Icons Interface tweaks for Linux
2.0.0	January 16th 2009	Menu Options for Toolbar Buttons
2.0.0	January 16th 2009	Feedback List to show progress
2.0.0	January 17th 2009	Encryption / Decryption of Binary Files
2.0.0	January 31st 2009	Double Click to Decrypt
2.0.0	January 31st 2009	Zero Effort Corporate Licensing
2.0.0	February 2nd 2009	Drag and Drop File Encryption
2.0.0	February 3rd 2009	Tweaks for Windows 7 Compatibility

## Addendum 1: Associating r10Enc on Macintosh OSX

To open a particular program on OSX when a particular file type is clicked it is sometimes necessary to first associate that file with the program you would like to automatically open. This is done as follow:

Right Click the Encrypted File. It will be named *Name.r10Enc*.

From the Menu select 'Open With' and from the cascading menu select 'Other...'.  
 You will see this dialog:



Select the R10Cipher application by finding it in the list, highlight it and tick the checkbox 'Always Open With'. Then press the Open button.

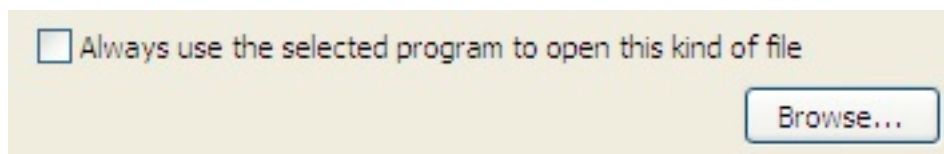
From now on a Double Click on an r10Enc file will open R10Cipher automatically.

## Addendum 2: Associating r10Enc on Windows XP

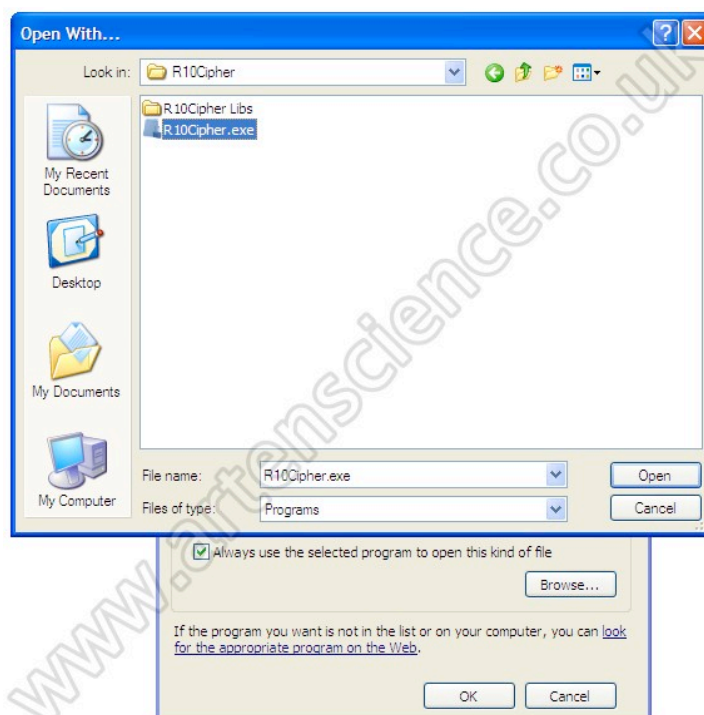
To open a particular program on Windows XP when a particular file type is clicked it is sometimes necessary to first associate that file with the program you would like to automatically open. This is done as follow:

Right Click the Encrypted File. It will be named *Name.r10Enc*.

From the Menu select 'Open With ...' and from the window that opens tick the following checkbox and press the Browse button:



You will see this dialog:



Navigate to the location of R10Cipher, highlight it and press the Open button.

From now on a Double Click on an r10Enc file will open R10Cipher automatically.

## Addendum 3: General Guide to Encryption

Encryption is the process of taking readable text and turning it into unreadable text. This is done using an algorithm called a Cipher. To perform the reverse, ie: turn the unreadable text back into readable text it is necessary to know the 'key' or 'shared secret' that was used to perform the encryption.

The secret to successfully protecting your information is down to how well the key is kept secret and also the complexity of the key. A key made up of a word or name or similar is easier to find through the process of a 'brute force attack' which basically involves the attempt to find your key using software to automatically try every word in various dictionaries, at a speed of potentially thousands of words per minute.

Encryption allows you to communicate 'in the open' without fear of your information being made available to a third party.

### The Enigma Machine.

An encryption device used by the Germans from 1920 until the end of World War II.

Cracking this Cipher, largely due to the work of the heroes at Bletchley Park, helped the allies win World War II.



## Addendum 4: Blowfish Encryption

Blowfish is a keyed symmetric block cipher which was invented by Bruce Schneier in 1993. It provided excellent encryption and is likely to continue to do so for the foreseeable future. Blowfish is free of patents and Bruce has placed Blowfish in the public domain.

The strength of Blowfish, as with all keyed ciphers, is down to the length of the key, or shared secret, a key length of 16 characters provides 128 bit encryption.

Blowfish was originally designed as a replacement for DES or IDEA, two aging encryption standards. It's success has been due to the fact that it has been proven strong and the algorithm is available for use without restriction.

More information on Blowfish:

<http://www.schneier.com/paper-blowfish-fse.html>

More Information on Bruce Schneier

<http://www.schneier.com/>

General Computer Security Information

<http://www.grc.com/securitynow.htm>

## Addendum 5: Frequently Asked Questions

Q: How do I get support ?

A: Please email [support@artenscience.co.uk](mailto:support@artenscience.co.uk)

Q: Do you do corporate or site licensing ?

A: Yes, a site license is available from our online store.

Q: How do I purchase ?

A: [http://store.kagi.com/cgi-bin/store.cgi?storeID=6FGFY\\_LIVE&&](http://store.kagi.com/cgi-bin/store.cgi?storeID=6FGFY_LIVE&&)

Q: Do you do other products ?

A: Yes, <http://www.artenscience.co.uk/artenscience/Products.html>

Q: Are trial versions available ?

A: All our products can be downloaded and used before purchase

Q: Do you offer a money back guarantee ?

A: Yes, 30 days.

Q: Do you offer telephone support ?

A: No, not currently. This may change in the future however.

Q: How do I register ?

A: Open the program preferences and input your name and serial number.

## Addendum 6: Arten Science and R10Cipher

Arten Science was setup in the UK in 2007 to design, develop and market quality commercial software for the Apple Mac OSX (Universal Binary), Windows XP / Vista and Linux with GTK+ 2.x.

We also provide Bespoke Software Development and Technology, Database and Security Consultancy services.

In addition to creating new solutions for our customers, all of our commercial products can be tailored, modified and enhanced to suit your specific requirements.

Arten Science is currently working on ArtenSUITE, our next generation, cross platform Application Development Framework. This will be used by ourselves and others to bring business applications to the Mac OSX and Linux platforms as well as continuing to support Windows XP and Vista.

Arten Science can help you to use software to solve business problems and create business opportunities.

All our Products are supplied free of charge to educational and charity organisations. Customers include Schools, Universities, Military, Churches, Youth Groups etc. Contact Arten Science for further information.

R10Cipher was written using REALbasic 2008.

<http://www.realsoftware.com/>

The author is Steven Cholerton.

<http://tektalkin.blogspot.com/>

Additional functionality was added by the use of plugins from MonkeyBread Software.

<http://www.monkeybreadsoftware.de/>

The icons were supplied by DryIcons.

<http://dryicons.com/>

Coffee supplied by Caffitaly.

<http://www.caffitaly.com/en/offerta-aromi-caffe.asp>

This manual was written on a 8 Core MacPro using Pages.

<http://www.apple.com/iwork/>

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## Addendum 7: End User License Agreement

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The software serial number and licensee must be registered with Arten Science in order to receive support or distribution rights.

You may not remove any proprietary notices, labels, trademarks on the software or documentation.

You may not modify, de-compile, disassemble, reverse engineer or translate the software.

### TERM

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