



User Guide

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Getting started with Read-a-Card

Read-a-Card is a software utility that runs on a Windows PC and reads information from many types of contactless cards and tags. For instance, various types of card numbers and unique IDs can be read and logged to file, or automatically sent to other software applications using various methods (including 'typing' the card ID, sometimes known as a 'keyboard wedge').

Read-a-Card is compatible with a wide range of readers from different manufacturers, and can also be used to identify cards, test reader functionality and to manage the use of multiple readers on a single PC.

Installing the software

1. Insert your Read-a-Card CD or USB stick.
2. The Read-a-Card installation menu should appear automatically after a few moments (you may be prompted to install Acrobat Reader first, if you don't already have it).
3. If the menu does not appear, find the file named 'setup' located on the Read-a-Card CD or USB stick. Double click it to launch the menu.
4. Click on 'Install Software on your PC' to start the main software installation process. Follow the on-screen instructions until installation is complete.
5. Alternatively, you can locate the software installer in the Setup folder and run it directly – it is called Read-a-Card.msi



Installing your reader

You will need to install drivers for your card reader before the software can be used. The drivers can usually be found on the CD supplied with your reader or by visiting the manufacturer's website.

Starting Read-a-Card

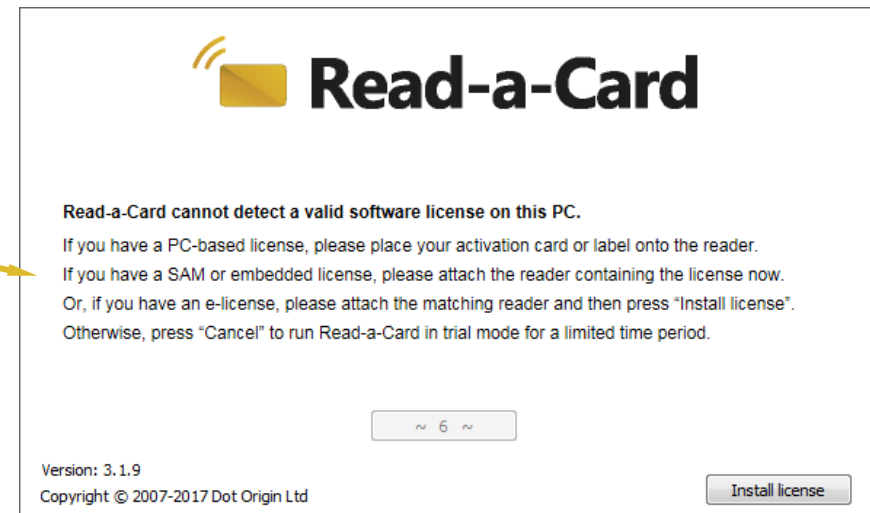
If you have purchased a PC-based license, then the first time you run Read-a-Card, you will need to activate the software by using the software activation card or label provided with your package. Otherwise you should either attach a reader that has a SAM or embedded license inside, or one that has an e-license available to match its electronic serial number.

1. Make sure you have your smartcard reader connected and that the drivers has been installed correctly for your PC.
2. Start the software by double-clicking the Read-a-Card icon on the Windows desktop, or locate and click the icon in the Windows Start menu.
3. Follow the on-screen instructions to activate Read-a-Card by presenting your activation card or label, or by attaching a licensed reader. Alternatively, click 'Cancel' to run in trial mode, during which you can also obtain your reader's electronic serial number and request an e-license for it.
4. Once activated, Read-a-Card will start up and display its default 'Status' window.
5. Remove your software activation card or label and keep it safe. You will need it if you ever want to move your Read-a-Card PC-based software license to another computer.

NOTE: To activate Read-a-Card with a non PC/SC compliant reader such as the ACS ACR120 you need to press 'Cancel' during activation to enter 'Trial Mode'. Then switch to the 'Readers' tab and select the appropriate reader. The next time you run Read-a-Card you will be able to use your reader for software activation.

Obtaining updates

To check if you are running the latest version of Read-a-Card click the 'Check for updates' link in the 'About' tab or visit the Read-a-Card website at: www.readacard.com



Using Read-a-Card

When started, Read-a-Card will open displaying the 'Status' tab by default, unless the 'Start Read-a-Card hidden (in toolbar)' option is enabled from the 'Settings' tab.

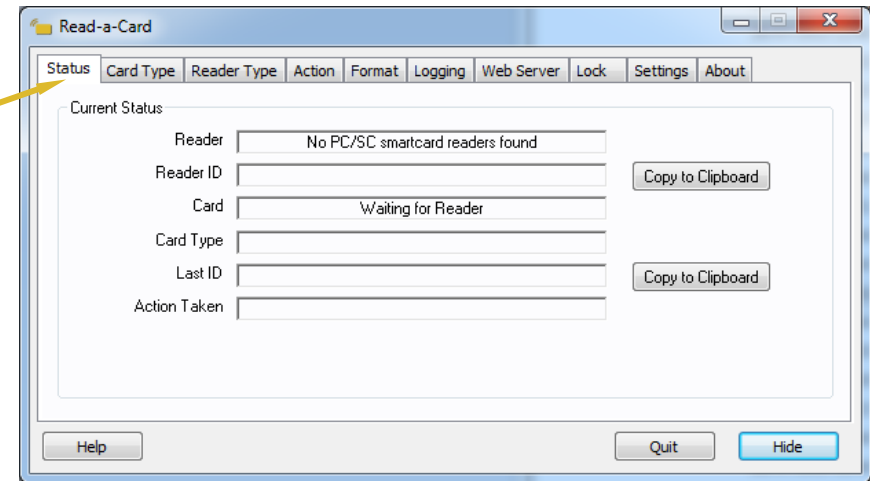
Clicking the 'minimise' or 'Hide' button will close the Read-a-Card main window but will leave Read-a-Card active with its icon in the tool tray. Clicking the 'Quit' button will close the application completely.

Status tab

The status tab displays 'live' information about the current reader and whether any cards have been detected:

- The 'Reader' box displays the name of the reader detected by Read-a-Card. If no reader can be found, a message will be displayed.
- The 'Reader ID' box contains the unique reader serial number, if the reader supports this feature.
- The 'Card' box displays a message indicating when a card has been detected by the reader.
- The 'Card Type' box displays the type of card that has been detected by the reader. If the type cannot be determined then 'Generic Card' will be displayed.
- The 'Last ID' box displays the unique ID of the last card detected by the reader.
- The 'Action Taken' box displays the action(s) that were taken when the last card was presented. See the 'Action tab' tab for more details.

NOTE: The ID of the last card read can be copied to the clipboard by pressing the 'Copy to Clipboard' button on the 'Status' tab. This can be useful if you want to paste it manually into another application or document.



Tool tray icons

Read-a-Card uses different tool tray icons to display the card reader status while the program is hidden.

Read-a-Card can be configured to start automatically with Windows, and also, optionally, to start minimised in the tool tray, although this feature is not available in 'trial' mode.

Trying out the keyboard wedge functionality





When the software is first installed, the feature to 'type' the card ID into text input boxes of other applications is enabled by default.

To try this out, simply open up another Windows application, such as Notepad, and present a suitable card to your reader, making sure that the application is on top and that the text cursor is displayed ready to receive typed characters. The ID of the card should then appear as soon as the card is recognised.

This feature is enabled or disabled by selecting the 'Place ID in keyboard buffer' option on the 'Action tab'. In addition, the exact format of the ID can be modified in various ways using the options on the 'Format' tab. By default, the same card will not be read again if it is presented within 10 seconds, although this 'de-dupe' feature can be modified in the 'Settings' tab.

Depending on the application, the appropriate field may need to be selected before the card is presented for this to work correctly. This can sometimes be done using custom prefix and suffix characters, while Read-a-Card offers various more advanced integration options to suit different kinds of software and situations.

The following sections describe how to configure Read-a-Card in more detail.

	A "NO" symbol indicates the card reader cannot be found
	A yellow icon indicates the card reader is ready to scan a card
	A green icon indicates the card reader has successfully detected one or more cards
	A green icon & white tick indicate the card reader has detected a card in the card type list and Read-a-Card has taken its configured action.

Configuration

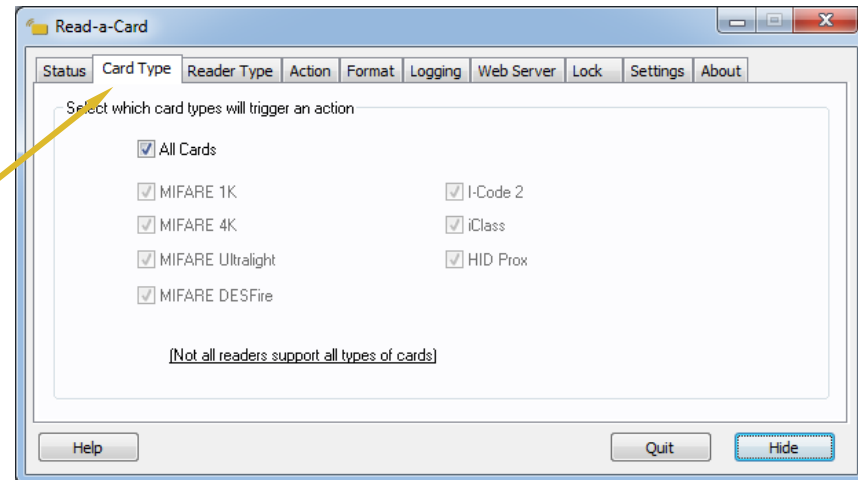
Read-a-Card has several tabs that are used for configuration: 'Card Type', 'Reader Type', 'Action', 'Format', 'Logging' and 'Settings'. Any changes made to these tabs take effect immediately within the program and all settings are saved automatically.

NOTE: Only administrators can install and configure Read-a-Card, while all types of users can run the software.

Card Type tab

On the 'Card Type' tab you can change the cards that Read-a-Card will take action on. By default it is set to 'All Cards' but this can be changed so that it only reads selected types by ticking or un-ticking the appropriate boxes. The selection made on this tab will not affect what cards are displayed on the 'Status' tab. It only affects what cards Read-a-Card takes action on, such as playing a sound, writing a log, or copying the card ID into another open application.

NOTE: Some readers are unable to read certain types of card, or cannot distinguish between certain card types. If a particular card type is not selectable this is because the chosen reader cannot read that card type. See 'Currently supported readers'.



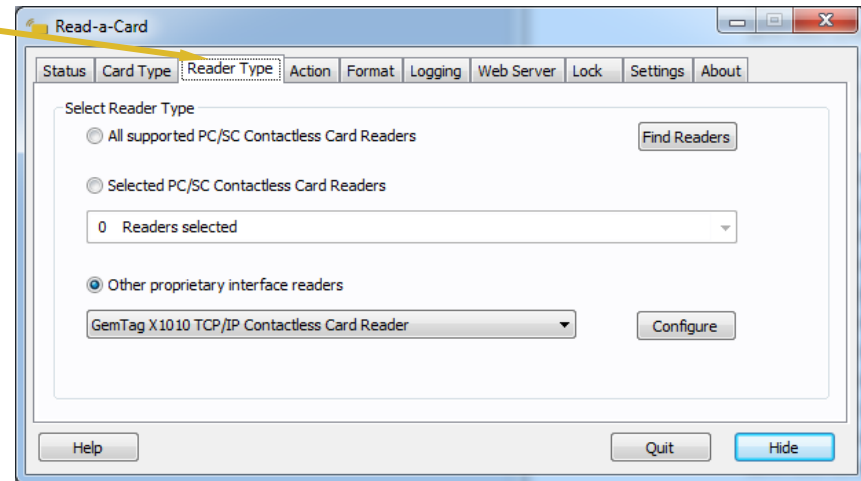
Reader Type tab

On the 'Reader Type' tab you can change which readers Read-a-Card monitors.

By default it is set to 'All supported PC/SC contactless card readers'. This can be changed to choose various card readers that use proprietary drivers or to deselect PC/SC readers that are not required.

If the 'Selected PC/SC Contactless Card Readers' option is chosen, the drop down menu will display currently detected readers which can then be individually enabled or disabled.

NOTE: If readers do not have unique serial numbers then all readers of that type will be grouped and can only be enabled or disabled together. Readers that have unique serial numbers can be individually enabled or disabled.



The 'Find Readers' button can be used to refresh the list of available card readers. This is useful if readers are connected or disconnected whilst Read-a-Card is running.

The 'Other proprietary interface readers' option allows specific non-PC/SC readers to be used. It is not possible to have multiple proprietary readers of different types selected.

For GemTag X1010 IP readers an additional configuration dialog allows the port number and IP addresses of up to ten readers to be configured.

NOTE: Read-a-Card can only detect readers that have been properly installed and are recognised by Windows.

Action tab

On the 'Action' tab you can change the actions that Read-a-Card takes when a card is read. By default it is set to copy the card ID to the keyboard buffer. This feature can be disabled by un-ticking the box against 'Place ID in keyboard buffer'. There is also an option to allow the Caps-Lock key to affect the output – normally it does not, to maintain consistency of alphanumeric IDs.

The 'Place ID in Clipboard' option places the ID of the card detected in the Windows clipboard.

The 'Play sound' option plays a sound when a card is detected. By default, it is a Windows beep, but this can be set to any .wav file by clicking on the 'Browse' button.

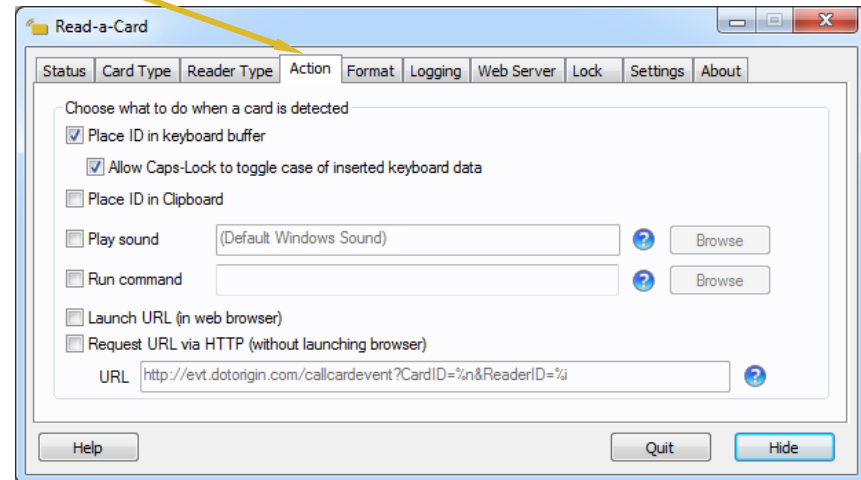
The 'Launch URL' option allows the user to define a URL to be launched when a card is detected. The URL will be launched by the Windows shell, typically using the default web browser. The reader ID, card type, card ID and iClass/Prox format (where applicable) can be automatically inserted into the specified URL (template options are displayed from clicking the ? button).

The 'Request URL via HTTP (without launching browser)' option allows a URL to be sent as a silent HTTP request to a web server. The result of this request is ignored. This option allows card presentations to be silently logged by a web server.

The 'Run command' option allows the user to define a command to be run when a card is detected. This command will be invoked by the Windows shell. The reader ID, card type and card ID can be automatically inserted into the specified command (template options are displayed from clicking the ? button).

See the 'Advanced features' section of this manual for information on further features that allow other applications to receive data when a card is detected.

NOTE: When defining the above options it is important to consider the 'Ignore duplicate card detections' option in the 'Settings' tab. By default no action will be taken for duplicate card detections occurring on the same reader within 10 seconds.



Format tab

The 'Format tab' can be used to select the card ID source and to control the format used when the card ID is inserted in the keyboard buffer.


The 'Card ID Source' drop-down box allows the preferred source of ID information to be selected. This can be the Card Serial Number/UID, the iClass/Prox ID or another kind of ID decoded by a Read-a-Card plug-in (such as data stored in a MIFARE sector).

Only certain readers are capable of reading an iClass or Prox ID (see 'Currently supported readers'). If a plug-in is selected, further configuration information may also be required before it will operate as required (see individual plug-in documentation).

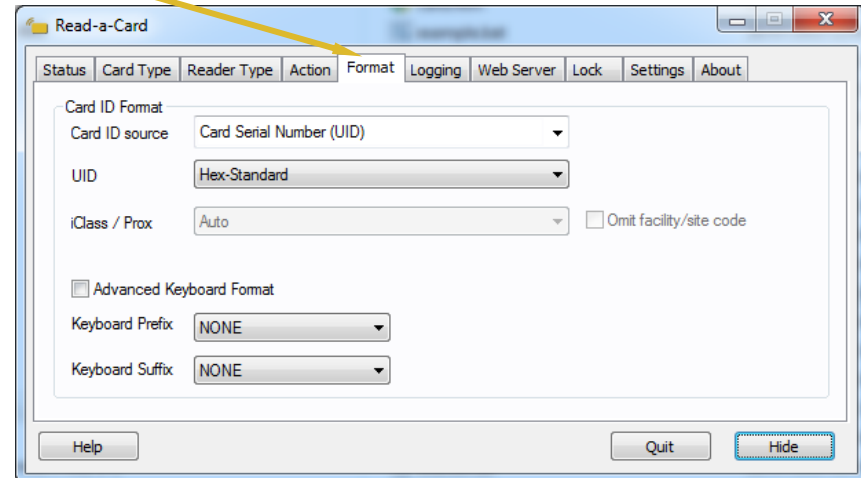
The 'UID' drop down box specifies the output format for UIDs. This can be Hex Standard, Hex Reversed, Decimal Standard (32 or 64 bit) or Decimal Reversed (32 or 64 bit).

The 'iClass/Prox' drop down becomes available when the card ID is set to iClass. This drop down determines the output format of the iClass or Prox IDs. Choose 'Auto' or select the appropriate HID card format to match the cards used (the 'Auto' setting may not be able to distinguish between all card formats in all cases).

It is possible for Read-a-Card to omit the facility/site code from iClass/Prox card IDs.

The 'Advanced Keyboard Format' check box switches the 'Keyboard Prefix' and 'Keyboard Suffix' options to a single advanced 'Keyboard Buffer' format template. The reader ID, card type, card ID and iClass/Prox format, as well as most key presses, can be automatically inserted into the format template - click on the  button for more information.

The prefix and suffix drop down boxes and the advanced format template provide additional control over characters placed into the keyboard buffer when a card is presented.



Logging tab

The 'Logging' tab can be used to control the optional logging of card and reader information when a card is presented.

Logging can be enabled or disabled by checking the 'Log card entry to file' box. Once enabled the log location and filename can be specified. The ? button explains advanced options on including card IDs, reader IDs, card types and timestamps as part of the file location and name.

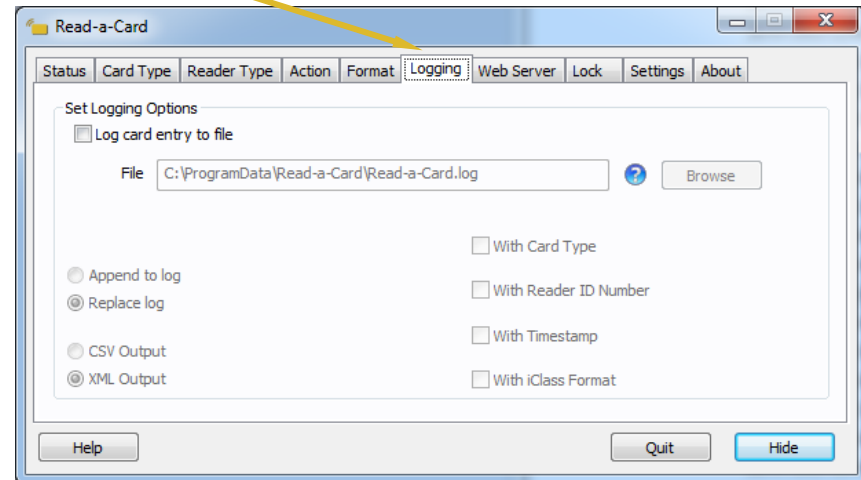
This may be useful, for example, to create separate log files per card ID or reader ID or timestamp.

The timestamp format can be manually configured in the Read-a-Card.ini file (see 'Advanced features').

The 'Replace log' option will cause each card presentation to overwrite any existing log file of the same file name and directory. The 'Append to log' option will add new log entries to the end of the existing file.

The 'CSV Output' and 'XML Output' options allow you to switch between Comma Separated Value files and XML formatted log files.

The actual content of the log files can be controlled by using the 'With Card Type', 'With Reader ID Number', 'With Timestamp', and 'With iClass/Prox Format'. The card ID will always be logged.



Web Server tab

On the 'Web Server' tab you can configure Read-a-Card's built-in web server to allow web pages to read card data through Read-a-Card when they are viewed in a web browser on the same computer.

This feature provides an easy way for a web-based card enrolment system to autofill its card ID field before submitting the information to a central server.

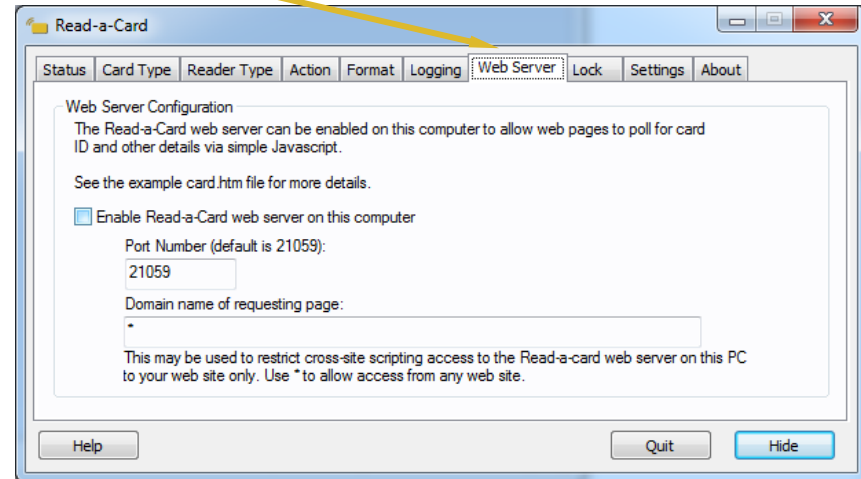
The web server can be enabled or disabled by checking the 'Enable Read-a-Card web server on this computer' box. Once enabled, Read-a-Card can communicate with a web page on a specified port number and domain.

To change the port number on which the Read-a-Card web server listens, enter it into the port number box.

You can enter the domain name of the requesting page or use an asterisk (*) to allow access from any web site. If you use an asterisk, any web page you visit that contains the Javascript necessary to communicate with your Read-a-Card web server can read your card details if a card is presented. To avoid this, enter the specific domain name of the website you wish to grant access to.

Any changes made will have an immediate effect on the Read-a-Card web server.

For more information on setting up your web page to communicate with Read-a-Card, please see the card.htm example web page in your Read-a-Card installation folder.



Lock tab

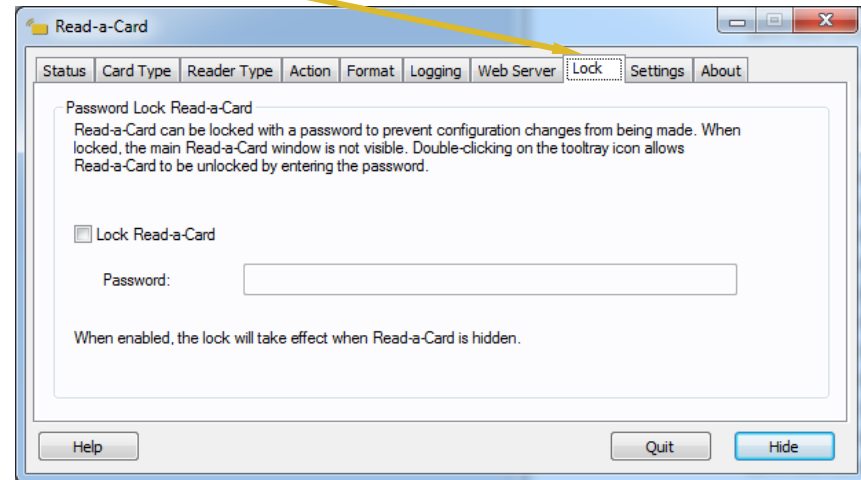
On the 'Lock' tab, you can password protect your Read-a-Card settings and interface.

This makes it easy to ensure Read-a-Card runs properly and in the background for anyone accessing your system. It is not meant to be a complete security layer, but rather an easy way to keep others from changing the way Read-a-Card will behave.

You can turn the lock on or off by checking the 'Lock Read-a-Card' box. You must also enter a password to enable the lock.

Once the lock is enabled and Read-a-Card's user interface is hidden, the password will be required to show the user interface (when you click on the tray icon). You can disable the lock by clearing the checkbox.

If your password is lost or forgotten, you can unlock the system by deleting the line in the Read-a-Card.ini file that begins with "Password=". See *Accessing program settings directly* for more information.



Settings tab

On the 'Settings' tab you can set Read-a-Card startup behaviour, language and duplicate card presentation timeout.

To automatically start Read-a-Card when Windows starts tick the box against 'Start Read-a-Card automatically on Windows startup'.

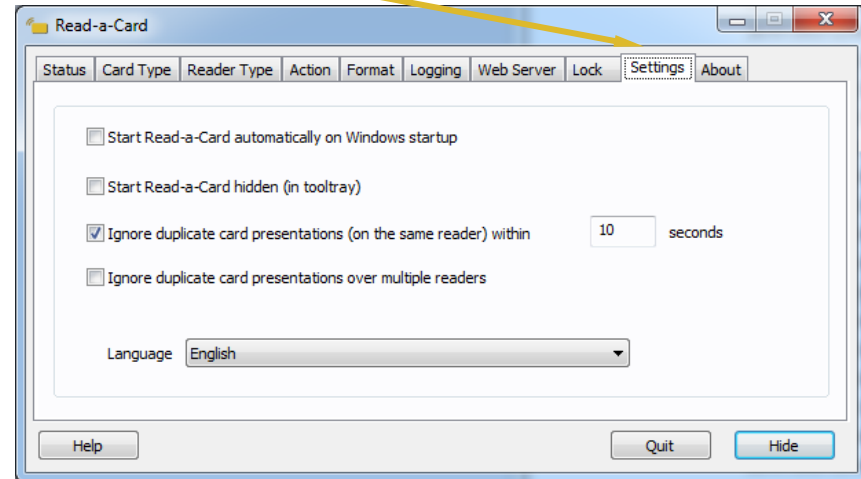
To have Read-a-Card start minimised to the tool tray instead of showing the 'Status' tab, tick the box against 'Start Read-a-Card hidden (in tooltray)'.

NOTE: This feature is not available in trial mode.

The 'Ignore duplicate card presentations' box allows you to enable, disable and set the time period during which duplicate cards will be ignored. By default this is enabled and set to 10 seconds.

It is also possible to ignore duplicate card presentations over all of the readers connected to the computer.

The language drop down box allows you to set the language you wish Read-a-Card to use. Alternative languages may only be available with certain types of software license.



About tab

The 'About tab' specifies version number and license details and allows you to register and check for updates.

You can also generate a request to order a license for the currently connected reader(s), and install e-licenses either from file or by retrieving them from the Read-a-Card license server.



Advanced features

Using Read-a-Card with other applications

Read-a-Card provides a number of ways for other applications to make use of Read-a-Card's functionality. There is a Windows messaging based API (application programming interface), the Read-a-Card web server, and various plug-in facilities so that Read-a-Card can meet the needs of your system. Certain plug-ins are provided with the Read-a-Card installation, while full details of the developer APIs and code samples can be found in the "Developer" folder on your Read-a-Card CD or downloaded from the 'for developers' section of the Read-a-Card web site.

Accessing program settings directly

All program settings are saved in a file called 'Read-a-Card.ini' which can be manually edited or accessed if required.

On Windows 2000/XP this is located in the folder: `c:\Documents and Settings\All Users\Application Data\Read-a-Card\`

On Windows Vista, 7 or 8 this is located in the folder: `c:\ProgramData\Read-a-Card\`

Logging timestamp format

The date and time format used by Read-a-Card's logging feature can be configured within the Read-a-Card.ini file. The data and time may be optionally used both in the content of the log data and as part of the file/folder name of the log file. This feature makes it possible to create discrete log files for each day, month or year by including '%s' in the log file name template on the 'Logging' tab.

Two ini file settings control the format of the timestamp that will be used. 'Timestamp' controls the format of the timestamp used within the content of the log file while 'FileNameTimestamp' controls the format of the timestamp that may be incorporated in the file/folder name. This allows a full date/time timestamp to be recorded for each card entry in a set of log files where a discrete file is created per date.

The default values for these settings in the Read-a-Card.ini file are as follows:

```
[LOG]
Timestamp = %Y-%m-%d %H:%M:%S
FileNameTimestamp = %Y-%m-%d
```

The following format options may be used to control the format of the timestamp:

%a Abbreviated weekday name
%A Full weekday name
%b Abbreviated month name

%B Full month name
 %c Date and time representation appropriate for locale
 %d Day of month as decimal number (01 – 31)
 %H Hour in 24-hour format (00 – 23)
 %I Hour in 12-hour format (01 – 12)
 %j Day of year as decimal number (001 – 366)
 %m Month as decimal number (01 – 12)
 %M Minute as decimal number (00 – 59)
 %p Current locale's A.M./P.M. indicator for 12-hour clock
 %S Second as decimal number (00 – 59)
 %U Week of year as decimal number, with Sunday as first day of week (00 – 53)
 %w Weekday as decimal number (0 – 6; Sunday is 0)
 %W Week of year as decimal number, with Monday as first day of week (00 – 53)
 %x Date representation for current locale
 %X Time representation for current locale
 %y Year without century, as decimal number (00 – 99)
 %Y Year with century, as decimal number
 %z Either the time-zone name or time zone abbreviation, depending on registry settings; no characters if time zone is unknown
 %% Percent sign

The # flag may prefix any formatting code. In that case, the meaning of the format code is changed as follows:

%#c - Long date and time representation, appropriate for current locale. For example: "Tuesday, March 14, 1995, 12:41:29".

%#x - Long date representation, appropriate to current locale. For example: "Tuesday, March 14, 1995".

%#d, %#H, %#I, %#j, %#m, %#M, %#S, %#U, %#w, %#W, %#y, %#Y - Remove leading zeros (if any).

is ignored for all other flags.

Currently supported readers

Read-a-Card has been tested to work with various readers that conform with the PC/SC 2.0 standard as well as other PC/SC 1.0 and proprietary devices. Please check the Read-a-Card website for the latest compatibility list.