



User Manual

Swissbit iShield Archive Tool (iAT)

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1. iShield Archive Card – an introduction

The Swissbit iShield archive card is a (micro)SD memory card which provides automatic encryption & access protection for all saved content, like photos and videos, recorded on generic cameras.

For details on the iShield archive card, please refer to the product fact sheet and product data sheet [available from 12.1.1].

This guide describes how to setup and use the card with the corresponding software tool, the iShield Archive Tool (iAT).

When using the iShield Archive Tool, we assume that you agree with the license terms. The license can be found in the installation directory of the application.

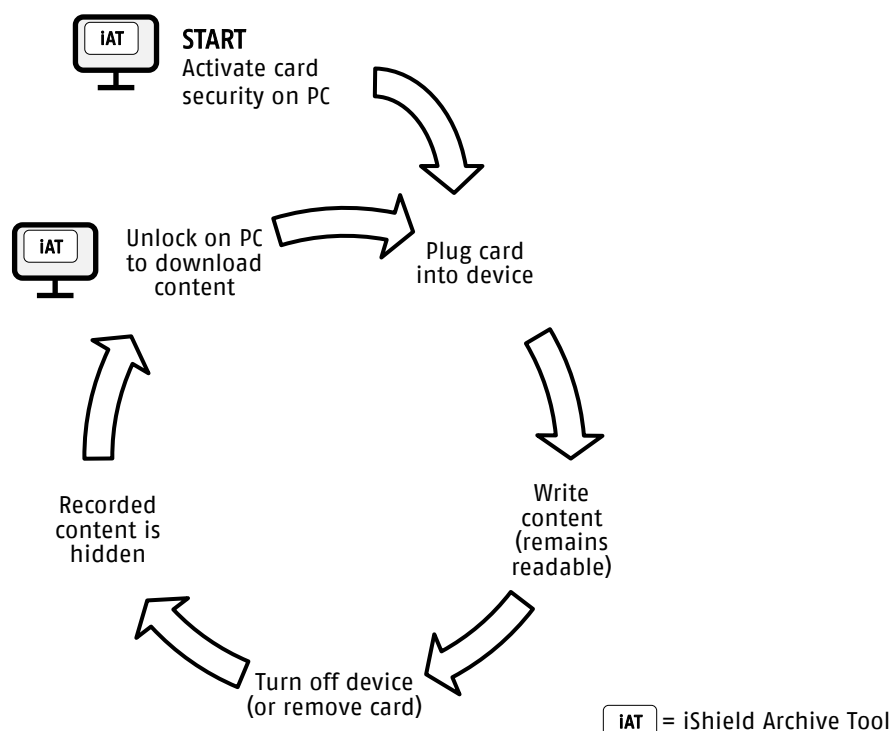
2. Prerequisites

To get started, you should have the following at hand:

- One Swissbit iShield Archive (micro)SD card
- A PC to run iAT – Windows 10, MacOS and Linux are supported. You can download the tools from [12.1.1 12.1.1]
- One PC or camera of your choice which supports (micro)SD cards in SD standard format (FAT32 or exFAT)

The device from which data is to be archived, e.g. your camera, needs to support a (micro)SD card with up to 32GB or 64GB, formatted according to SD standard in FAT32 or exFAT. The iShield Archive card is factory pre-formatted correctly. Note that the iShield archive card does not support other file systems (e.g. NTFS...) – trying to apply such file systems will be rejected by the card during the activation process. Also, please note that formatting the card is only possible when the protection has not yet been activated.

3. Usage flow of iShield Archive card



To start using the card, plug it into a PC and use the iShield Archive Tool (iAT) to set a PIN and activate the security. After that, you can start using the card in the device of your choice. This device can be a PC or a camera. If you want to archive data from the PC on which you are running the iAT, make sure to terminate the application after security activation and power-cycle your card. All written files will remain visible and readable until the card is being power-cycled – either by shutting the device, e.g. your camera, off and on again, or by removing the card (which is generally not recommendable during camera operation – data loss may occur).

After the power cycle, all previously recorded data will be hidden and the file system appear to be empty again. Note that the file system shrinks about the size of the previous session. A new session is created when new data is recorded. When the file system is small, i.e. the card has low free space, on start-up, the card will be displayed as being full.

In order to access and download the card's content, plug the iShield Archive card into your PC and use the iAT software to authenticate (using your PIN). Then your card can be plugged back into your device for archiving further data.

4. Initial setup – activating security

In factory new condition, the iShield Archive Card is working like a regular memory card – no data protection features are active.

In order to activate the security, plug in the card into a PC and start iAT. The tool will ask you to plug in the iShield Archive Card if it is not yet connected. After being connected, the card will show up in iAT:

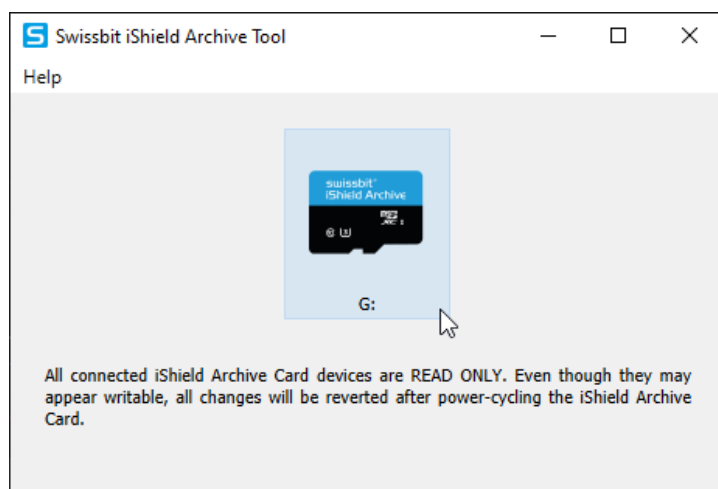


Fig. 1 IAT started up, with iShield Archive Card connected

Click on the product picture to start the activation process. On the next screen, hit "activate":

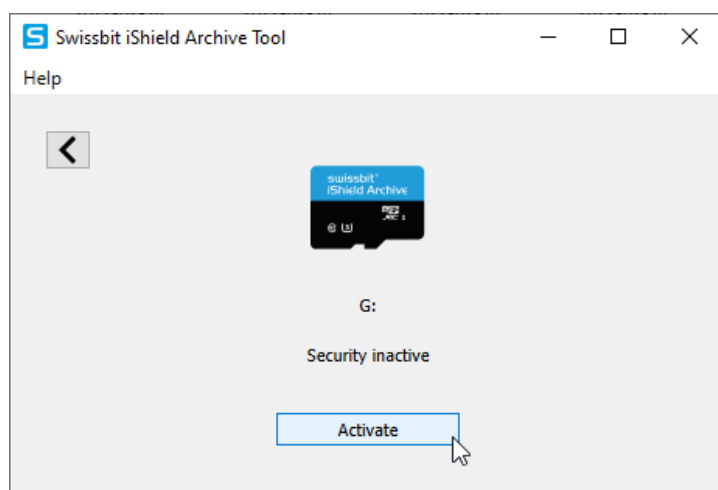


Fig. 2 Starting the security activation

The wizard will inform you that security activation will delete all data currently present on the memory card. If there is anything on the card that you still want to save, cancel the process here. Otherwise, hit "continue". In the next step, you will be asked to set & confirm your PIN. Optionally, an Admin user can be created besides the normal user. The resulting role based access mode, called WORM mode, allows more granular security settings (see ch. 5). If you choose to create an Admin user, you will also be asked to set & confirm your Admin PIN. The PIN and Admin PIN also supports alphanumeric characters and special characters.



Security Activation

Configure your PIN for the iShield Archive Card

Important: you need the PIN to read the data that is stored on the iShield Archive Card. If the PIN is lost, the data can not be recovered anymore and the iShield Archive Card will be unusable.

Please **take good note of this value** and store it in a safe place.

PIN Re-Enter PIN

You can optionally add a separate Admin user for more granular security settings: if there is an Admin user, only the Admin can delete data from the device or restore it to the factory default. Also, the Admin PIN can be used to unblock the regular user PIN in case it has been lost or forgotten.

☒ Add Admin User

Admin PIN Re-Enter Admin PIN

Fig. 3 Setting the security PIN and Admin PIN

Please take the advice in the wizard seriously – without the PIN or Admin PIN, respectively, you will no longer be able to access data recorded on the secured memory card. In addition, you will need the same PIN to reset the card.



Security Activation

Security successfully activated

Please unplug the Swissbit iShield Archive Card now. Then, insert it into the target device (e.g. a camera) and start to use it like a regular storage device.

All recorded data will be encrypted automatically and can only be read back using this application by providing the correct PIN.

This dialog will close automatically after the device has been removed.

Fig. 4 Security activation success message

After the security has been activated, you will see the success dialog shown above. Just unplug the secured memory card and the dialog will close automatically.

5. Using the card in WORM mode

The iShield archive card can optionally be used in WORM mode. The WORM mode is activated by creating an Admin user during security activation and setting an Admin PIN. When operating the card in WORM mode, the normal user can only read data with the PIN but cannot delete any data from the card. The Admin PIN is required to wipe the card's content or perform a factory reset.

6. Using the card with activated security

After activating the card's security, you can simply plug it into your device and store some data on the card for archiving. For use in a camera, for instance, start using it normally to archive the recorded data. The card has a FAT32 or exFAT format according to the SDA standard, which is directly supported by many camera models. For recommended measures in case a camera does not support the standard FAT32 or exFAT format, please refer to chapter 10.1

All recorded data will remain readable during the same session (before power cycle) of the memory card. In the next session (after power cycle), all recorded data of the previous session is hidden – to access the content of past sessions, follow the instructions in the next chapter.

7. Accessing the protected data from the card

Start iAT on your PC and connect the iShield Archive Card. Click on the product picture (see Fig. 1) to start accessing the protected data.

In the next dialog, you can choose to view the files of a session of your choice (card will be in read-only mode) or to download the files of all sessions to a selected folder (backup). Both operations will ask for the PIN that you set during the initial setup.

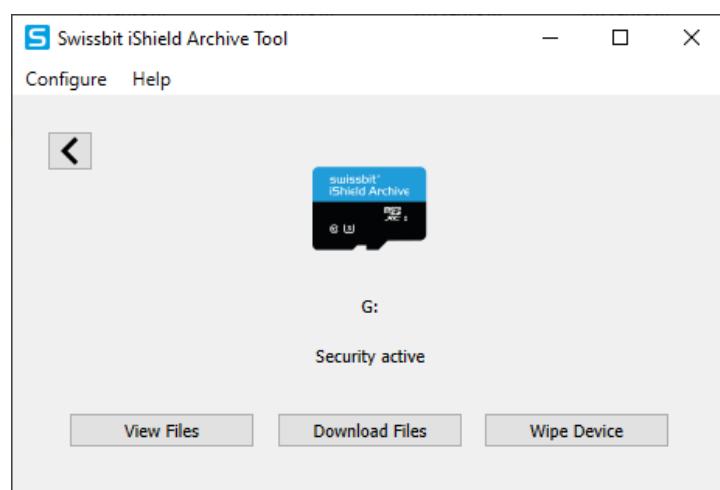


Fig. 5 View Files or Download

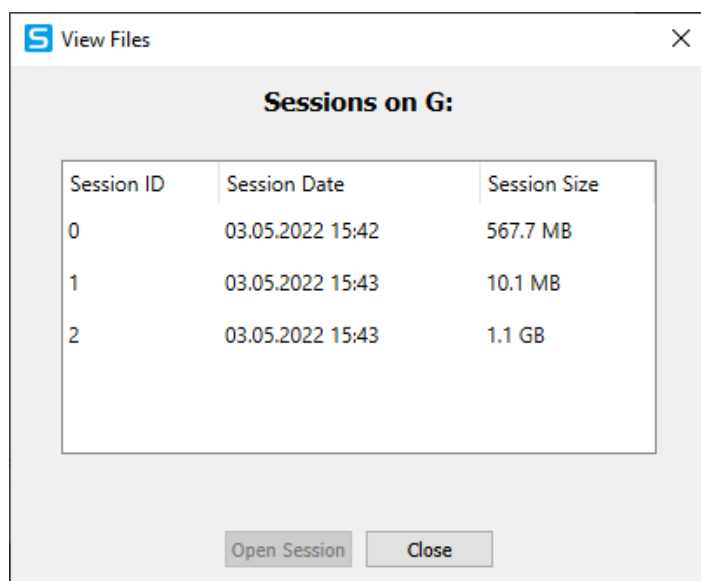


Fig. 6 Open Session

8. Manage the card – wipe card, factory reset, change PIN, unblock PIN, change Admin PIN

In the same dialog that is used for accessing protected data, you can also manage your card's security. Start iAT on your PC and connect the iShield Archive Card. Click on the product picture (see Fig. 1) and note the button to wipe the device or click on the menu option "Configure" to show up the menu options:

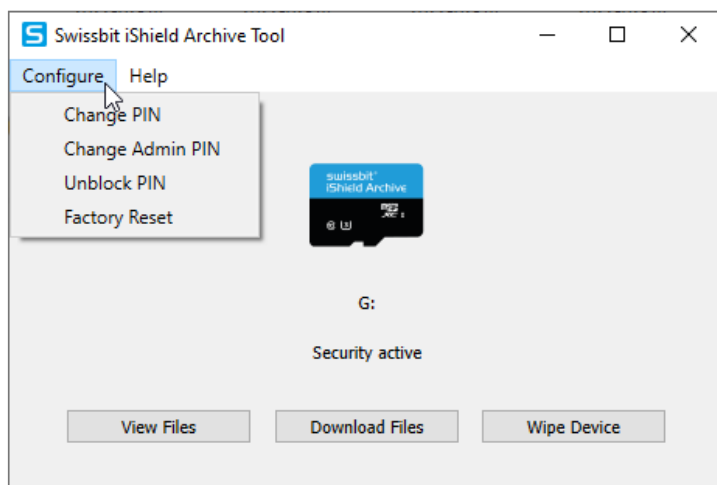


Fig. 7 Change PIN, Unblock PIN, Change Admin PIN, Wipe Device, and Factory Reset options

Change PIN allows you to set a new PIN for the secured memory card.

Unblock PIN allows you to unblock your PIN, i.e. to set a new PIN without knowing the old one. This operation requires the Admin PIN and is only offered if an Admin user was created during initial setup of the card.

Change Admin PIN allows you to set a new Admin PIN for the secured memory card.

Wipe Device allows you to wipe all content from your memory card and to restore an empty file system. If there was no separation between Admin and normal user defined during the initial setup, this operation will ask for the PIN. Otherwise, the Admin PIN is required to confirm deletion of the card data.

Factory Reset allows you to restore the factory default (no security active) of the card. The factory reset can be performed either with your PIN or Admin PIN, depending on your security settings configured during activation of the card.

Please note: All data will be *irrecoverably lost* during a factory reset.

9. Re-initializing the card (e.g. before switching camera models)

If you intend to use the iShield archive card in a different camera model than it has been used with before, you need to re-initialize the card first. In order to do this, please copy all files that you want to keep and perform a factory reset to deactivate the security (see. ch. 8). Then, please use the official SD card formatter tool from SD association to format the card – it can be downloaded for free for Windows & Mac (download link: see 12.1.2). After formatting, you can re-initialize your iShield card (see. ch. 4) and start using it in the new camera.

10. Resolving issues

10.1 Re-formatting in camera required

Some camera models require a special file system, which usually results in a “card error” or request to “format card” after it has been inserted into the camera with activated security (according ch. 4).

In this case, please try the following procedure:

1. Restore the factory default (see ch. 8)
2. Plug in the card into your camera & format it in the camera
3. Plug the card into your PC and try to activate security (ch. 4)

If you receive a success message, your camera is compatible with the iShield security features and you can now use the card in your camera with all content being automatically protected.

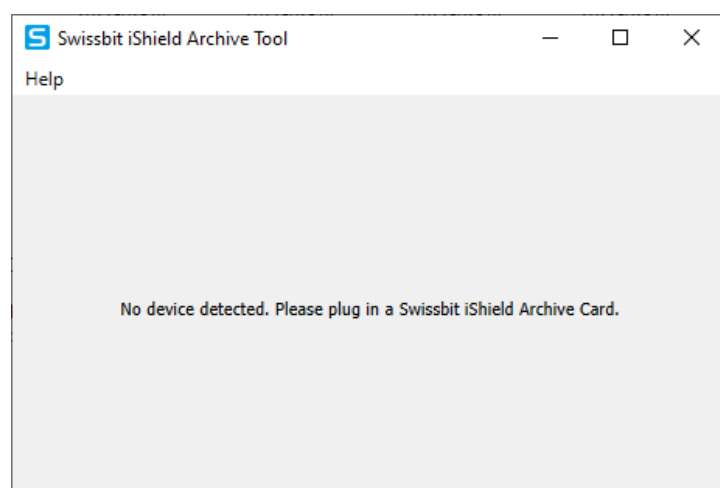


Fig. 8 No device detected after re-formatting in camera

In case the iShield card does not show up in iAT after re-formatting in your camera (see ch. 9), unfortunately the file system is incompatible with iShield security (e.g. formatted as NTFS).

You can still use the card as a regular memory card in your camera without the security features. If you would like to try the iShield card in a different camera, please format the card with SD Formatter (see ch. 9) before re-activating the security features in iAT.

Please report your used camera make & model to iShield-support@swissbit.com. We will use this information to improve the product in future generations.

10.2 Incompatible camera

In case you receive an error message about an incompatible recording system (Fig. 9) after the iShield card has been used, your camera is unfortunately incompatible with the iShield archive card's security features. Please restore the card's factory default by selecting "Configure – Factory Reset". You can still use the card as a regular memory card in your camera.

Please report your used camera make & model to iShield-support@swissbit.com. We will use this information to improve the product in future generations.

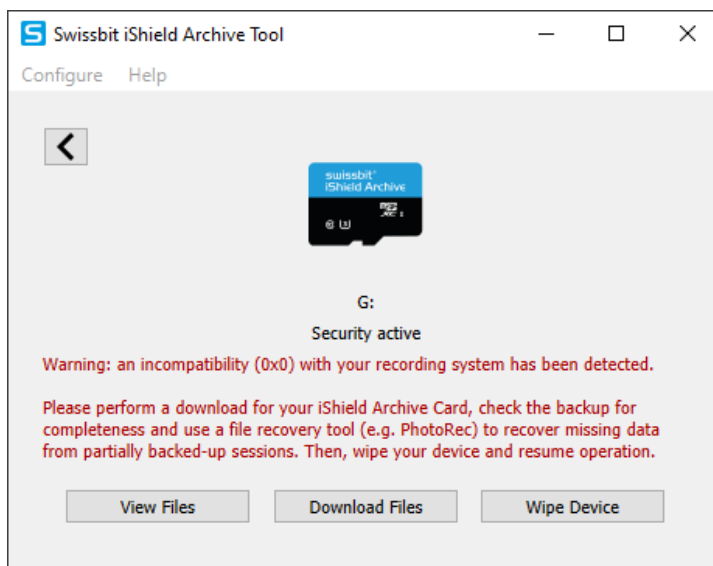


Fig. 9 Incompatible camera warning message

11. Command Line Tool

Besides the iAT, the card can also be managed via the command line tool. On Linux-Armhf, the GUI application is not supported so the CLI needs to be used. The command line tool can also be downloaded from [12.1.1]. Please keep the iAT terminated while using the command line tool. Otherwise unintended behaviors of the card may occur. For detailed information of the usage of the command line tool consult the help with the following command:

```
iATcli --help
```

12. Appendix

12.1 Links

12.1.1 Swissbit product landing page with Downloads

<https://www.swissbit.com/en/products/security-products/ishield-camera/>

12.1.2 SD Card Formatter Download (recommended official tool from SD association)

<https://www.sdcard.org/downloads/formatter/>

13. Document History

Version	Updated on	Updated by	Short description
1.0	May 3rd, 2022	Swissbit AG	First release