

## Soft Mirror Copy

Copyright by Kai-Olaf Rustige, Germany

### **IMPORTANT DISCLAIMER**

The author of this software is not responsible for any damage that may occur by using this software.

The use of it is solely on your own responsibility.

The not registered Version may be distributed freely, in case you register this software, its for your personal use only.

The key is not allowed to be distributed.

The unregistered version is fully functional, only a disclaimer appears at startup and at all manual actions.

The Registration costs 5 EUR, you simply send the amount via

- PayPal ([www.paypal.com](http://www.paypal.com)) to
- [kai@rustige.de](mailto:kai@rustige.de)

and will receive the Key via email soon (see section "Registration" below).

## Introduction

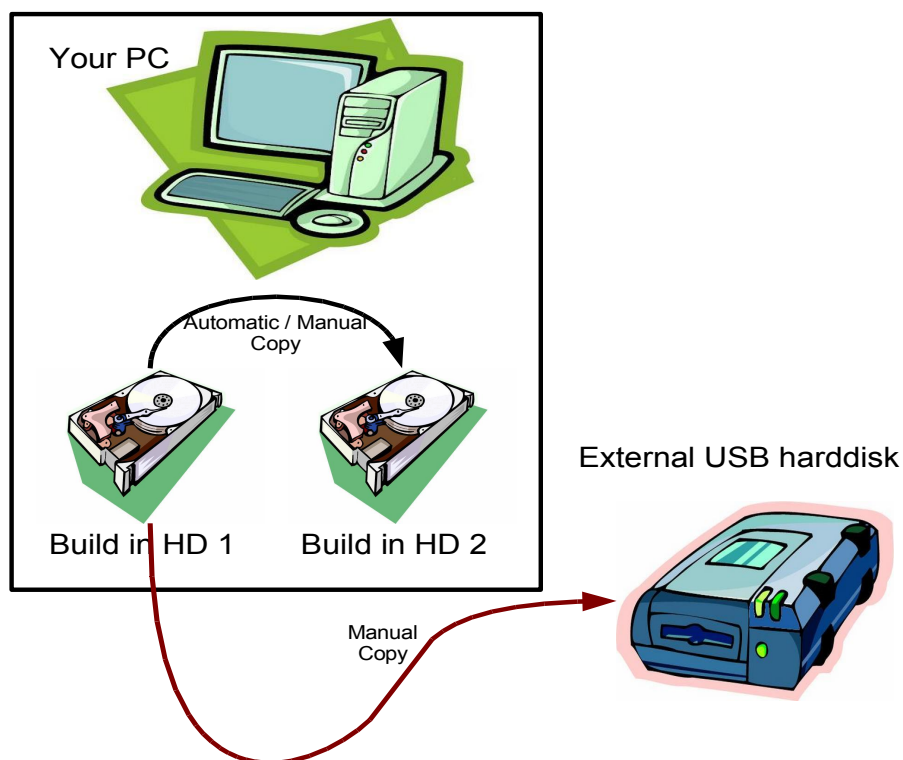
Today's PCs store huge amounts of personal Data, such as Pictures, Music, Tax-declaration etc. These Data can grow up to easily to tens of Gigabyte of storage.

The usual PC uses only one Harddisk for data storage, which, as one of the moving parts of the Computer may fail with a certain probability.

New PCs address this problem with Hardware RAID-Mirror enabled Mainboards, but these are not easy to configure and the effect of double redundancy only proves itself in the case of the loss of one harddisk. Deletions are mirrored as well and you need two harddisks, but only have the net capacity of one.

Anyway, as harddisk prices fall and many computer users already have a second device (e.g. From older computers) in spare, the solution to use multiple harddisks to improve data availability is obvious.

This Tool addresses the need for redundancy as a Software - Mirror, it only copies changed or new data, but doesn't (except you force it, see below) delete data on the backup harddisk. This is done by supervising your SOURCE directory (including Sub-directories) and (nearly instantly) copying written data. It only mirrors the SOURCE Directory, other Directories with less important data will not be copied, so you don't use the backup harddisk to backup unwanted data. The Tool as well supports a third harddisk, which could be an USB mounted device, that may be switched off and only will be attached for backup purposes. So, even in case you lose all data on your PC on both harddisks, you could restore the status of your last backup from the USB device. The following Picture schematically illustrates the work of this tool:



Important: The "Built in HD 1" in this case holds the SOURCE Directory, the "Built in HD 2" the Target Directory 1 and the USB HD the Target Directory 2 .

## General Method of SoftMirrorCopy

The tool uses the "last write date" to compare data on the Source (your "working data") with data on the Target (your backup data). In case the written data on the source is more recent, the copy is done. This copy overwrites the former version in the Target directory. (Attention: if you wreck the source file, e.g. by changing the content of the document, let say in MS-Word, and then saving it, the data will be lost in the source and instantly in the target copy. This is one reason for the USB HD as offline backup (also in case e.g. a virus deletes all your data an both main disks)). Deletions of the whole file in the Source path will not be copied.

**Don't work in your backup directory** (these data are not copied automatically), only work in the Source.

If you move data within your Source directory from one folder to another, the data in the "move to" folder in the source is instantly copied to the Target. Data in the "move from" directory in the source will disappear (a move is a copy with a delete of the origin, the "move from" file afterwards). The data in the Target will reflect the "move to" part of the move, but the deletion of the "move from" will not be copied to the backup / target. Consequently you will have two copies on the Target Directory (See Full Sync below).

### ***Copy when writing***

This tool watches the Source directory and will start a copy as soon as it detects a write with a newer write data than the files date on the Target Directory. Files are copied instantly, the target data are overwritten with the newer version.

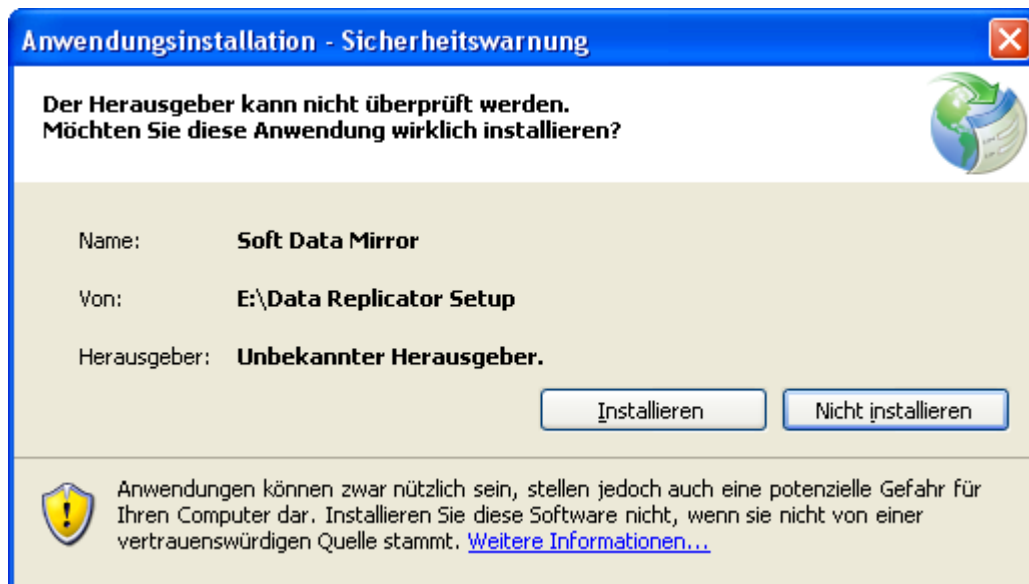
## Getting Started

### ***Prerequisites***

This Tool is tested on Win XP with Servicepack 2, in nearly the same config used as in the following example. You need to have the .NET 2.0 Framework on your PC. This could be obtained from Microsoft via the normal update. The installer tries to download it as well in case he couldn't find it.

### ***Installation***

Simply start the Setup.exe. This will install the tool and create a program group. The installer tries to check a registration:



Anyway, you can overcome this problem by simply clicking on the “install” button.

### ***Start of the Tool***

After the installation, the Tool could be found under “Start, Programs, Soft Mirror Copy”. When you start it first, normally the settings for the directories will be wrong. You will be prompted to change the settings



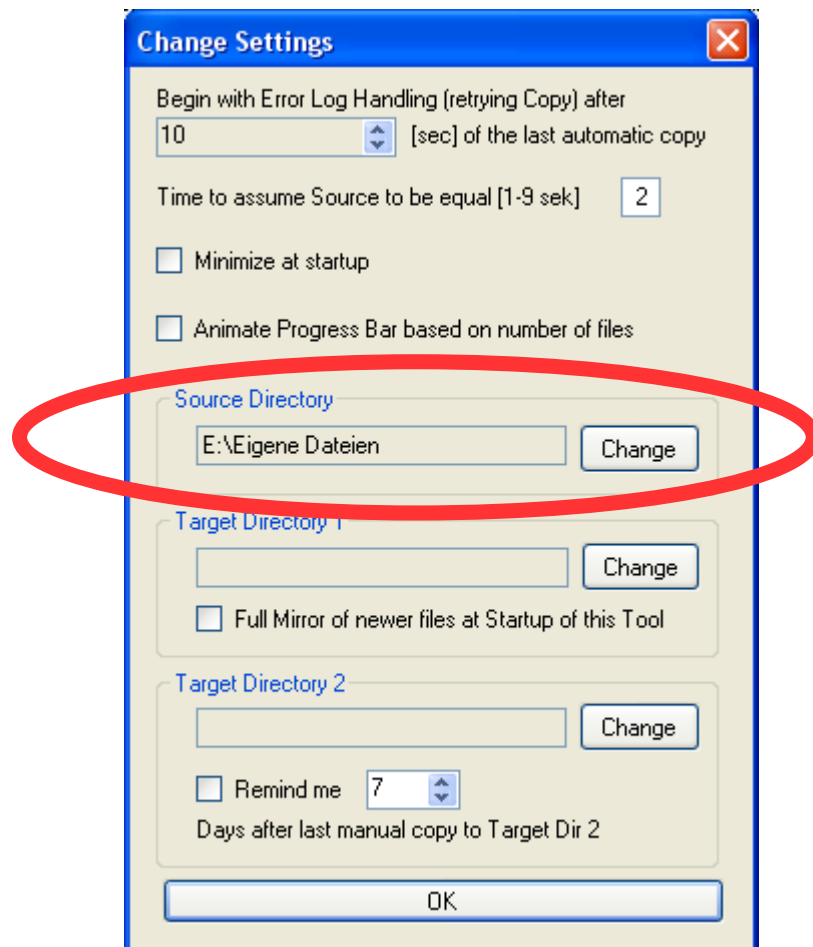
and after clicking “OK” the “change settings” dialogbox will appear. (It will also appear a **disclaimer dialog**, please **read it carefully** and click then accept. **If you couldn't accept the terms, click ok, directly end and un-install the program via Windows**).

In the following **example**, the program will be set-up as follows:

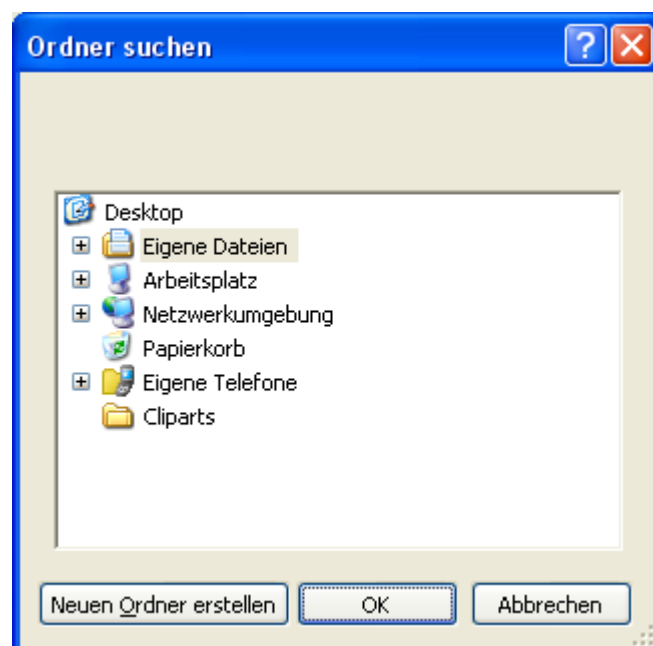
- The source directory is the directory for “My Data”, here “E:\Eigene Dateien”. This directory resides on the first harddisk (which, in this example is partitioned, C:\ and E:\ are on the same physical Disk)
- The Target Directory 1, the directory where data is automatically mirrored when data is written / changed on the Source, will be “G:\Backup Data”. This Data reside on the second physical Disk, installed inside the PC.
- Target Directory 2 will be established on an external USB Harddisk, “K:\USB Backup”. Data will only be written manually

## Change Settings

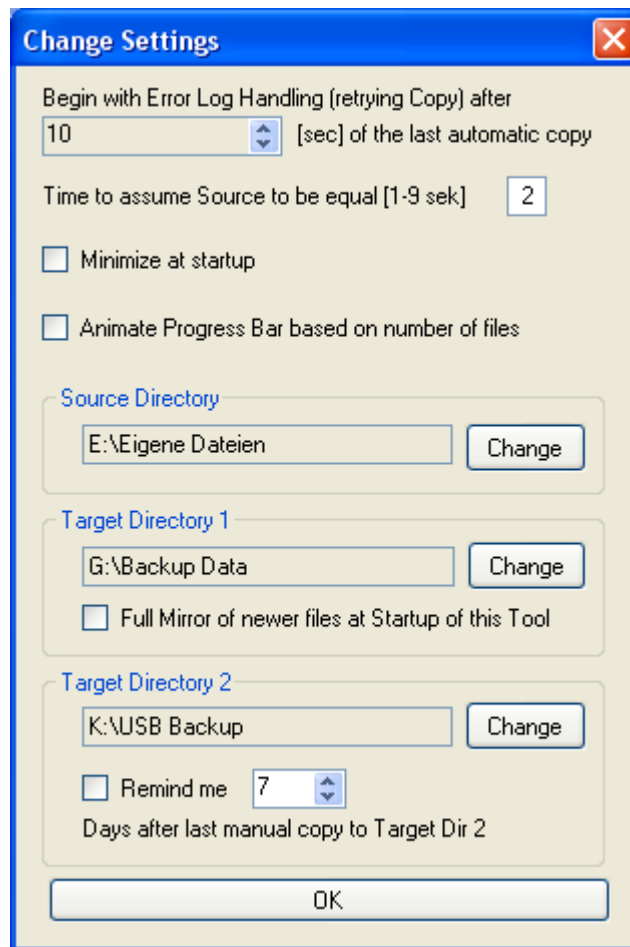
First you have to chose the Source Directory (your Working Directory). Normally it should be automatically preset to your “My Data” Dir. Chose it with clicking the change button right to the path box:



When clicking on the change button, a directory – browser – dialog will open like:



You could choose an existing folder or create a new one with “Neuen Ordner erstellen”. Please **never choose directories of the System itself, so not “C:” or “C:\Windows”**. Typically you should choose (as displayed) the “Eigene Dateien” equal to “My Data”. The choice of the other Dirs will be done equally. The appearance is then:



Now the program will supervise the source directory and copy written data instantly to Target 1 Directory. Because this copy will happen at writing only, existing data will not be copied (this issue is addressed by the “Manual Full Mirror...” see below).

### IMPORTANT:

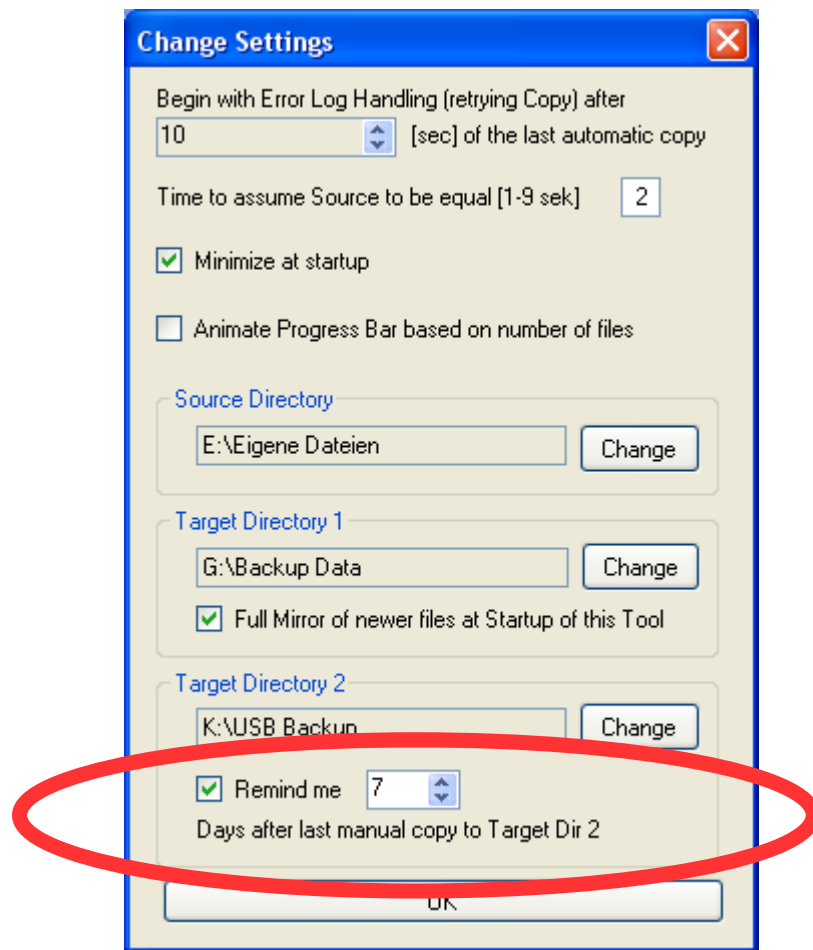
Due to this, its **STRONGLY RECOMMENDED** to **check** the box “**Full Mirror of newer files at Startup of this tool**”. The tool at startup will compare the Target Directory 1 with the Source and copy (Source→Target) all data that are newer in the source compared to Target 1 (and overwriting the existing Files on Target1). Files that are only existing on Source will be copied as well to Target 1.

At normal startup, you probably only want to see the tool residing in “The Tray”, the bottom right corner on your desk. In this case you choose “**Minimize at Startup**”. The tool will reside in the Tray like in this picture (the **icon will blink when the tool is copying**):

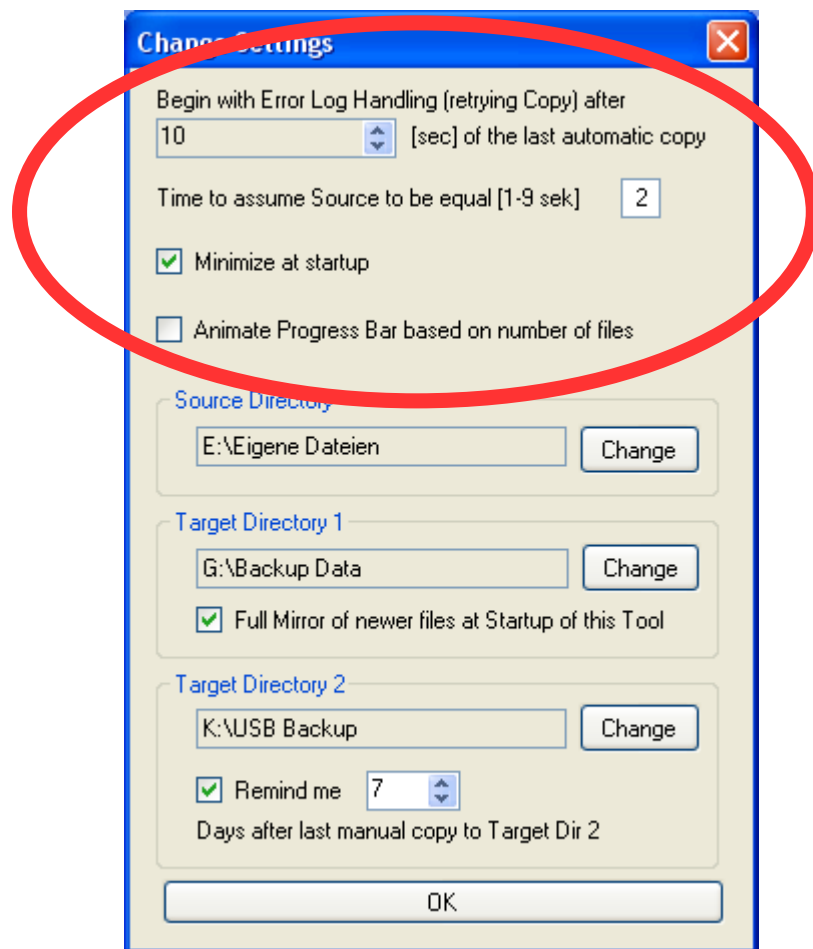


You could open the Tool by double clicking on the symbol.

The Tool also is able to **remind you after a chosen number of days** to attach your USB Disk and to manually copy onto. You may activate this function by clicking the respective checkbox:



The remaining settings are:



**“Begin with Error Log Handling...”** (here 10) is the time, the tool waits for the next try, when it is encountering an error while copying (then it begins emptying the Error-Log).

The **“Time to assume Source to be equal...”** (here 2) exists because of timing reasons of Windows. This cannot be changed and is pre-set to 0 (zero) in the newer versions.

Only check the **“Animate Progress bar...”** when you have a powerful computer and the number of supervised files is not not huge. If you want more performance, leave this box unchecked.



The recommended settings now appear as follows (for this example):

**Change Settings**

Begin with Error Log Handling (retrying Copy) after  
10 [sec] of the last automatic copy

Time to assume Source to be equal [1-9 sek] 2

☒ Minimize at startup

☐ Animate Progress Bar based on number of files

Source Directory  
E:\Eigene Dateien Change

Target Directory 1  
G:\Backup Data Change

☒ Full Mirror of newer files at Startup of this Tool

Target Directory 2  
K:\USB Backup Change

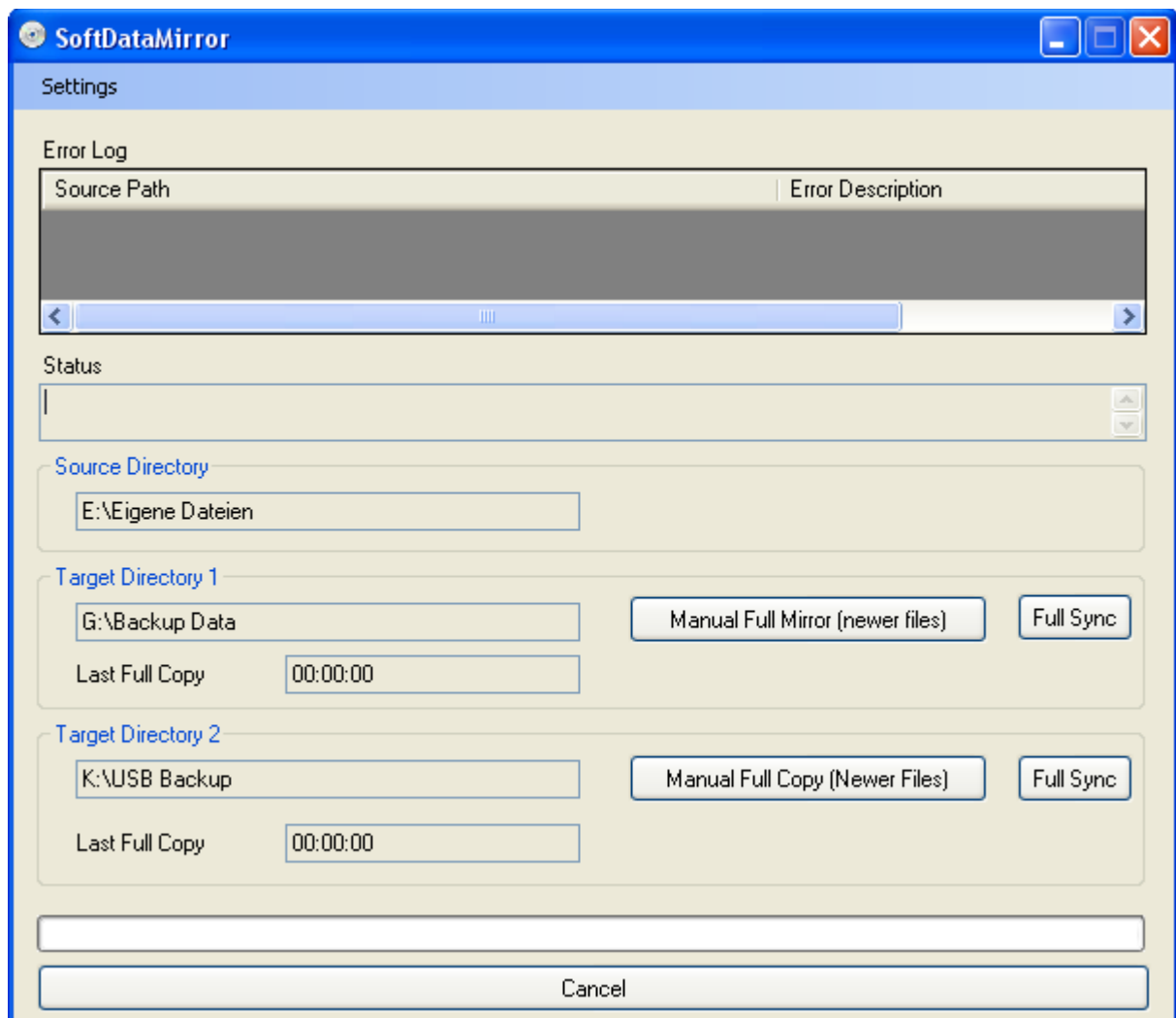
☒ Remind me 7  
Days after last manual copy to Target Dir 2

OK

### ***Make it Start Automatically (recommended)***

Simply go to the Windows “Start” menu, select “Programs” and then the “Soft Mirror Copy” Tool and, with right click create a link. Then a second entry appears, named “Soft Mirror Copy (2)”. Drag this into the Program / Autostart Group. Now the Soft Mirror Copy will start automatically when starting Windows.

## The Main Window



Here you find the **menu** where you could find **informations**, change **settings** and enter the **registration key**. You could see errors in the **error Log** that may have been occurring (e.g. caused by data that cannot be copied) and you see the **status window**, displaying the current action and recent activities of that tool.

### General remarks

Better don't use the manual full Copy / Sync buttons when working in the source directory. When you defrag or run games that use the source directory to store temporary data, you better end this Tool before.

### Manual Operations

You can start **manual full copies** to both of the target directories. The system also displays the **last date / time of a fullcopy**. The "**Full Sync**" Buttons should be used **carefully**, because as said earlier, the Tool normally doesn't mirror/copy a deletion from the source to the target. Consequently, when you delete a lot on the source or move data a lot (e.g. You rearrange your holiday pictures), the target dir will reflect all files, but also the deleted as well as duplicates in other directories (see sample above, chapter "General Method of...").

The "Full Sync" will then Synchronize the respective Target entirely to the source, so **both directories and all their subdirectories as well as all files will be identical afterwards**. When Full-Sync, the Source will always "win", its the same as if you delete the target entirely and then do a copy of source (to target). Its only much faster (because it skips unnecessary copies and only deletes files in the target that are not present in source). Data deleted on the source (but still present at the Target) afterwards will be deleted both in source and Target.

You could stop a manual copy with the "Cancel" button, to send the tool to the tray you click the minimize Symbol, you end the tool with the closing button (both in the upper right corner).

### ***Retrieving Informations in case of HD Failure***

You simply restore the failed Harddisk and then you copy the backup-ed Data with the normal Windows explorer. Alternatively, if one of the backup Harddisk has failed, install a new one, set up the Target Directory and use the manual full mirror to copy the data. If your Source has failed, re-install the harddisk and the use the windows explorer to copy your source data back to the source directory.

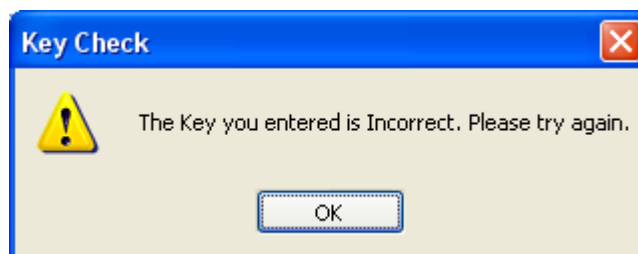
Note: This Tool doesn't do any imaging of the Operating System Files etc. To do so, you must use an imaging tool, like Norton Ghost or True Image from Acronis.

### **How to register**

You simply send 5 EUR to [kai@rustige.de](mailto:kai@rustige.de) via [www.Paypal.com](http://www.Paypal.com) (the payment service for e.g. Ebay). You then will receive a registration key (to the email you used at paypal) that is solely for your personal use. Enter it by selecting the menu "Settings / Register". You can always re-enter the code in case you mis-typed:



You will get an announcement if the code is correct as well as when it's not (example: incorrect codeentry):



After successful registration, the disclaimer will not appear regularly.