

# CloneDisc Technical Note



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## Introduction

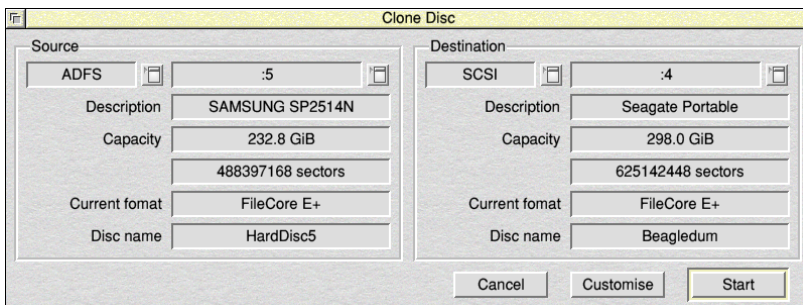
DiscTools are a family of applications written by Piccolo Systems comprising:

- CloneDisc (EA-944-5) is a general purpose tool for copying the entire contents of a disc
- SystemDisc (EA-944-6) for managing the system software on SD card booting systems
- FormatDisc (not yet available) is a universal disc formatter

This technical note concerns the first in the family, CloneDisc.

## Using CloneDisc

The main window you see when you start CloneDisc looks like that shown in Figure 1.



**Figure 1 - CloneDisc's main window**

The main window displays a selection of diagnostic information about the source and destination discs that you choose from the drop-down menus, so you can be sure that you have selected the correct discs. This is the only easy way to find the current format and exact media size from within RISC OS.

Supported filing systems are:

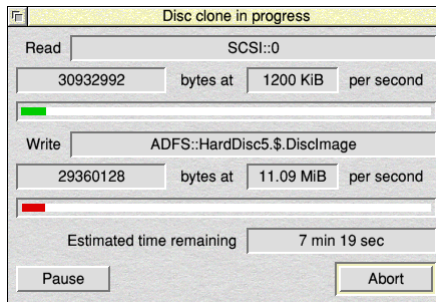
- ADFS for SATA and PATA hard discs on Elesar's Titanium, CJE Micro's Rapido-Ig, Castle's Lyonix PC, and Acorn-era Risc PC/A7000/A7000+ machines
- SCSI for Acorn-compatible SCSI drives, plus all USB-attached drives
- SDFS for on-board MMC, SD and micro-SD readers on Raspberry Pi, Beagleboard, Pandaboard etc...

CloneDisc can provide full diagnostics on discs that are formatted to FileCore E or E+ format (that is, ones which have been formatted using HForm), as well as FAT12, FAT16 and FAT32. Other formats can be copied, but will not be identified and the disc name will not be listed.

To erase the destination disc, rather than to copy another disc's contents to it, choose "zeros" as a source. This is available as an alternative in the menu of filing systems.

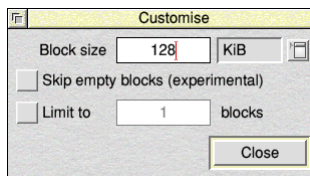
Please note that when copying either complete discs or image files, CloneDisc will need both the source and destination to be inserted at the same time. So, for example, with a few exceptions, most RISC OS systems only have a single on-board SD card slot, so to duplicate an SD card, you will either need a USB card reader in addition, or else use some other storage medium as an intermediary.

Once you have confirmed your choices by clicking the **Start** button, you will normally move on to CloneDisc's other main window. This shows the progress of the disc clone operation, and also serves as a handy disc operation profiler, if you want to find out the comparative speeds of your discs. You can pause or stop the operation at any point.



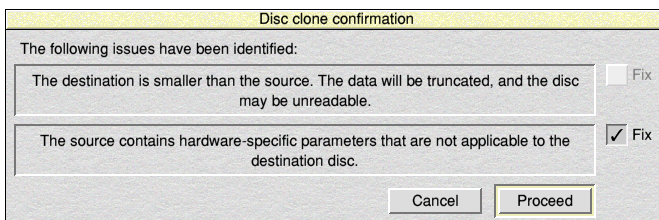
**Figure 2 - CloneDisc's in progress window**

Advanced users may wish to click the **Customise** button before they start. Most users can leave these at the default settings. More information on these options is available in the interactive help.



**Figure 3 - The advanced settings**

CloneDisc can also identify a range of problems with a copy operation before it starts. In such cases, it will ask for confirmation. If CloneDisc is able to address the problem automatically, it offers you the option to correct problems where it is possible to do so.



**Figure 4 - Fixing common issues encountered**

## Frequently asked questions

### **What does the message that says "The source contains hardware-specific parameters that are not applicable to the destination disc" mean?**

When a disc is formatted to FileCore format, it can hold various parameters that are intended to be used to configure the way the drive is accessed - information that on a PC would have been stored in the BIOS. Generally speaking, newer technology requires fewer of these parameters, so while ST506 drives required several parameters, ATA drives need only two, and SD cards don't need any. This poses a problem when cloning from one filing system to another, as the same region of the disc is used to store different hardware-specific parameters on different filing systems.

CloneDisc uses special knowledge of each filing system to probe the hardware and guess the correct settings for the hardware-specific parameters, and if there is a mismatch between this guess and what the source disc or disc image contains, it will offer to fix them for you.

You may occasionally also see this when the source disc was formatted on the same filing system, because some older versions of HForm initialised the hardware-specific parameters incorrectly for SCSI drives.