

**LinkZ88**

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# Chapter 1

## LinkZ88

### 1.1 LinkZ88.guide

Welcome to LinkZ88, a file transfer package for the Cambridge Computers' Z88 and Amiga computers.

This document applies to version 1.0.x, written on 13th March 1995, Copyright (C) 1995 Andy Dean.

Introduction	Welcome to LinkZ88
Copyright	Legal stuff
Requirements	Before you start...
Transferring Files	'Getting' and 'Putting' files
Protocol	How it works
The Author	Contacting me
Future Additions	Extra planned upgrades
Credits	The author would like to thank...

### 1.2 LinkZ88.guide/Introduction

Introduction

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LinkZ88 was written to allow me to transfer files directly to and from my Z88, without going through the hassle of using the nasty Z88 terminal emulator and / or copying files directly to the serial port.

As I'd bought the PCLink software along with the Z88, all I had to do was to write a Amiga program that used the PCLink file transfer protocol to allow me direct access to the Z88 files. I figured that if I wrote the software, I could be guaranteed that no hidden character translation was going on behind my back. This is the purpose of LinkZ88, to transfer files to and from the Z88 without changing them in any way (i.e. it's a binary transfer).

The program was written in one day and is not as friendly as it could

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be(!). I have had no problems running it on my A4000/EC030 at 9,600 baud, although I couldn't get it to go any faster. At 9,600 baud, LinkZ88 transfers files at about 200 bytes per second (see Protocol, for reasons why this figure is lower than the theoretical maximum). I can't support the software, but it is likely that I'll periodically release improved versions with more features and utilities. If you find any bugs, contact me at my address (see The Author).

The access to the serial port is done mainly asynchronously so it is very unlikely that the program will enter a deadlock situation. I've tested the program with several large files and the protocol seems very stable.

### 1.3 LinkZ88.guide/Copyright

Copyright  
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No guarantee of any kind is given that the programs described in this document are 100% reliable. You are using this material at your own risk. The author can not be made responsible for any damage which is caused by using these programs.

The package is freeware, but still copyright by Andy Dean. This means that you can copy it freely as long as you don't ask for a more than nominal copying fee.

Permission is granted to include this package in public domain collections, especially in the excellent Fred Fish library (including CD ROM versions of it). The distribution file may be uploaded to Bulletin Boards or FTP servers. If you want to distribute this program you must use the original unmodified distribution archive.

Permission is granted if you wish to use the source code as the basis for your own software provided that:

1. You mention in the documentation that the software is based on LinkZ88.
2. You call your program something different than "LinkZ88".

### 1.4 LinkZ88.guide/Requirements

Requirements  
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LinkZ88 requires the following to run:

- \* Amiga running Workbench2.04 or above and with a free serial port 0.

- \* Cambridge Computers' Z88 with PCLink program ROM.
- \* A serial cable to connect the Amiga and Z88.

## 1.5 LinkZ88.guide/Transferring Files

### Transferring Files

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LinkZ88 uses a standard Amiga GUI, so using the program should cause no problems. Make sure before you start that the Amiga and Z88 are using the same serial standard and are connected with the serial cable. I use:

- \* Amiga: 9,600 baud, XON/XOFF, no parity, 8 bits per char, 1 stop bit.
- \* Z88: 9,600 baud, XON/OFF, no parity.

Now start the PCLink software on the Z88 and the LinkZ88 software on the Amiga (it doesn't matter which program you start first). The Z88 should now have "PCLink2" and "Running" printed on its screen and the Amiga should be showing the LinkZ88 interface.

Click on the 'Devices' button on LinkZ88. This will get the available devices from the Z88 and show them in the scrolling list. The list might show ":RAM.0" and ":RAM.1" for example. Click on a device in the list and a list of directories and files on that device will be shown.

The LinkZ88 list works in a very similar way to the Amiga's file requester so it should be easy to understand how to traverse the Z88 file structure.

To get files from the Z88 and transfer them to the Amiga, click on the files in the LinkZ88 list. An asterisk ('\*') will be shown by the file names to show that they have been selected. Then click on the 'Get binary' button. A directory requester will appear and you may choose whereabouts on the Amiga to put the file(s). Click 'OK' to start the transfer.

Similarly to put files from the Amiga to the Z88, select the directory on the Z88 where you wish to place the files. Click 'Put binary' and select the Amiga files you wish to transfer. Click 'OK' to start the transfer.

When transferring files, the status bar at the bottom on the LinkZ88 window will inform you of how much data has been transferred. You may abort the transfer at any time by pressing the LinkZ88 close window gadget (this will also quit the program, you will need to load it again and restart PCLink for another transfer).

It is also worth noting that when transferring files from Z88 to Amiga, the Amiga filename will be the same as the original Z88 filename. Because of the limits of Z88 filenames, when transferring

files from the Amiga to Z88, LinkZ88 may alter the filename to make it a valid Z88 filename.

When all transfers are complete, quit LinkZ88 and PCLink.

## 1.6 LinkZ88.guide/Protocol

Protocol  
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LinkZ88 follows the file transfer protocol outlined in the PCLink documentation, with one exception. The protocol definition suggests that when the Z88 is sending binary data with values above 80hex (0x80), it should send it as an ESC-B sequence. When writing LinkZ88 I found that this was not the case and so LinkZ88 allows the receiving of values over 0x80 directly. When LinkZ88 sends data to the Z88 however, values over 0x80 are sent as an ESC-B sequence.

It is also worth mentioning that a lot of speed is lost using the PCLink serial protocol. In theory, 9,600 baud could give you approx 1K per second, however the PCLink protocol defines that for every byte sent or received a handshake byte should be returned. This cuts throughput by a half. Furthermore, with the exception of a few special characters, byte values outside the range 0x20-0x7F should be sent as a 4 byte ESC-B sequence. For a binary file, this again cuts throughput in half.

## 1.7 LinkZ88.guide/The Author

The Author  
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## 1.8 LinkZ88.guide/Future Additions

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## Future Additions

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As I said in the introduction, I have no real plans for future developments of LinkZ88. I think however the following might get implemented:

- \* Printer pass through, allowing the Z88 to print on the Amiga's printer via LinkZ88.
- \* Utility programs to convert to / from Amiga and Z88 file formats.

## 1.9 LinkZ88.guide/Credits

### Credits

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The author would like to thank:

- \* Sir Clive Sinclair, for the Z88 (also for the ZX81, ZX Spectrum and QL - all revolutionary machines).
  - \* Commodore-Amiga.
  - \* SAS Institute, for the 'SAS/C' C compiler.
  - \* Ian OConner, for 'The Designer' - used to do the LinkZ88 GUI.
  - \* All the public domain / freeware / shareware authors, for loads of great software.
  - \* All those involved in the Amiga TeX and 'makeinfo' ports.
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