

PC2Amiga

COLLABORATORS

	<i>TITLE :</i> PC2Amiga		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
WRITTEN BY		February 12, 2023	

REVISION HISTORY

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Chapter 1

PC2Amiga

1.1 main

```
                PC <--> AMIGA TRANSFERER  
        VERSION  3.2  
        USER DOCUMENTATION
```

For users of old version of PC2Amiga

About, requirements, future, legals

How to run program

Miscellaneous notes (not bugs)

Bugs and troubles

Author

1.2 menu1

About (Purpose)

Requirements

Results

Files in the package

Legal stuff

History

Planes for future

1.3 menu2

Instalation
Running program
Controlling program
Configuring program

1.4 menu3

Used conversions
PC2Amiga under misc. systems
Using PC's printer
PC Programs notes

1.5 menu4

Tips & Hints
Trouble shooting
Known bugs & problems

1.6 important

IMPORTANT CHANGES THAT MAY CONFUSE OLD USERS

- Amiga program is made commodity. So no window will appear after its startup.

- New version uses config file. Command line parameters are no longer used and they are ignored, so your scripts (if you made some) won't work. Run the

PC2AMCFG
program to set up PC part.

- Be sure to remove old .COM files before you are installing a new version.

1.7 purpose

PROGRAM PURPOSE & ABOUTS

Have you ever transferred something between Amiga and PC? You have three ways how to do it:

1) "floppy net" - copy file to a DD disk in the MS-DOS format and read it by the Amiga

2) Use TWIN or EasyLink. But it has a big disadvantage - it can transfer file, but it does not allow applications on Amiga to directly access PC's drives - it's not a filesystem.

3) Use terminal programs and ZMODEM (or another) file transfer protocol. Disadvantage? As above.

So

I
decided to write my own filesystem with this feature.

This program uses the master-slave technique (Yes, PC is the slave :-). Transfers are fully independent (it is called the non-context protocol), so if you write "type pc:c/LongFile.txt" and after some time reset PC and run the PC part again, the text will continue scrolling.

P.S.: Feel free to mail
me
your opinions and/or bugreports and/or
suggestions and/or greetings - I would appreciate some feedback :-)

1.8 requirements

REQUIREMENTS

An Amiga with system V 2.0 or higher, a PC with MS-DOS version 3.1 or higher. Both computers must have serial ports connected with the
null-modem cable

.
You can also use the
three-wire cable
, but there may be

some
Problems
.

(Actually, PC2Amiga has not been tested on 2.0 very much).

1.9 results

TRANSFER RATES

Average effective transfer rates (for about 0.5MB file):

Rate	Packet length	Direction	Src	Dst	Speed [Kps]
57600	8192	A500 -> 386SX/40MHz	HD	NIL	4.9
57600	8192	386SX/40MHz -> A500	HD	HD	4.8

1.10 files

PACKAGE TREE

```

PC2Am (dir)
  L (dir)
    pc2am-handler
      Storage (dir)
    DOSDrivers (dir)
      PC
        PC.Info
    DEVS (dir)
      PCEntry
        Libs
      igs.library
        PutToPC (dir)
      PC2AMIGA.EXE
      PC2AM_NR.EXE
      PC2AMDEB.EXE
      PC2AMCFG.EXE
      PC2AMANA.EXE
      Install
        Install.Info
    PC2Am.guide
    PC2Am.guide.info
      PC2AmProblems.guide
        PC2AmProblems.guide.info
    PC2Am.Info

```


1.11 instalation

HOW TO INSTALL THE PROGRAM

Run the install program (Installer required) or copy the files to your directories. But in both cases you have to copy a PC part to PC by

floppy
,
Twin
or a
terminal program
.

See

PC part notes
for more info about PC part files.

This program uses usual null-modem cable connected to serial ports.

But the DTR/DSR signals are not used and CTS/RTS should not be required, so you can try it with just the 3-wire cable (GND, RxD, TxD).

1.12 howtostart

HOW TO START

Configure both sides.

Run program (PC2AMIGA.EXE) on PC and mount device on Amiga. Now you can access PC drives via logical device "PC:". In the main PC: directory there are PC devices stored as directories. So if you want to type file "autoexec.bat" on your PC's C: drive, write type pc:c/autoexec.bat. But the best test if handler is working, type list pc:. It should show all drives that you have on PC.

When you want to access PC devices directly, you may create assigns e.g., "assign PCC: PC:C". (But you must remove them before you exit the handler.)

See also

PC part notes
for info about PC and
Instalation
for instalation details.

It is the best to start the not-resident version (PC2AM_NR.EXE) for the first time you run PC2Amiga. It is safer.

1.13 pcnotes

PC PART NOTES

There are two copies of the PC software (PC2AMIGA.EXE & PC2AM_NR.EXE). First is resident but is not able to remove itself. The PC2AM_NR.EXE file is not resident but may be quit by pressing the BREAK combination or quitting the Amiga part - see

Controlling program

.

1.14 control

Program is commodity and its interface can be popped up by any commodity controller (exchange).

Window contains following gadgets:

Hide - Hides interface

Info - Shows info about transfers

About - Shows copyright information

Abort - Aborts current action. Use it when it seems to be impossible to transfer the packet. **WARNING:** This command is supposed to be safe only when canceling the attempt of establishing connection. Cancel when doing some action (opening, reading) may cause unpredictable results. (But does not in the most of cases.)

NOTE: There may be delay between this command and the "CANCELING ACTION" message because handler takes a care of it only when it starts reading from the serial.

Quit - Will quit handler. All locks to it must be unlocked. After successful 'death' run the 'assign pc: dismount' command to unmount device. Then you can mount it again (e.g., when you have changed the configuration).

NOTE: There may be delay between this command and real quit because handler takes a care of it only when it waits for the packet from DOS.

1.15 config

Amiga

PC

1.16 confamiga

Amiga handler is configured via mount receipt in the DEVS:Dosdrivers/PC file. However, I wrote a configuration script for installer, so I advice you to configure PC2Amiga this way.

In the script, there is always some help under the "Help" gadget.

1.17 confpc

PC side's configuration is stored in the 'PC2Amiga.cfg' file. This file is binary and may be changed using the 'PC2AmCfg.exe' program. This program will pop up some menus, no problem here.

First, you have to select device to communicate via. PARALLEL TRANSFER IS NOT SUPPORTED YET.

Then choose IRQ. This is the IRQ selected port is using. The usual value will be active when the menu is popped, so you have to change it only when program does not receive interrupts.

If you are using serial port, you must specify speed.

The you select, if you wish filenames to be cut to MS-DOS' 8.3 format (i.e., eight chars of filename, then a dot and then another three chars). You should set it, if you are using just MS-DOS. Windows 95 and OS/2 can use long filenames, so you must not cut the filenames.

1.18 conversions

Filename conversion

Protection bits conversion

Date conversion

Error conversion

1.19 filenameconv

FILENAME CONVERSION

You may select when
 configuring the PC part
 if you wish to
use this conversion.

First part of filename (till first . or /) will be truncated to eight chars if it's longer. Last file of name (after last ., if it exists) will be

truncated to three chars.

Example: filename "blablabla.ugh.woodpecker" will be converted to "blablabl.woo"

Note: filenames that don't have the first part (most usual ".backdrop") will not be converted and open or lock call will fail. This is because of PC's impossibility to have file with empty first part of name.

1.20 protbitsconv

PROTECTION BITS CONVERSION

PC -> Amiga conversion.

R - converted to W and D amiga flags, because it has both effects on PC
H - This flag is converted to Amiga's H flag, although it has no effect.
S - Ignored
A - Converted to A

Amiga -> PC conversion

H - Converted to H
S - Ignored
P - Ignored
A - Converted to A
R - Ignored
W - Converted to R
E - Ignored
D - Ignored, because MESS-DOS is unable to make writable but not deletable file.

1.21 dateconv

DATE CONVERSION

Works, but there are little problems with Amiga files dated between 1-Jan-76 and 1-Jan-80, because PC cannot have file with this date.

1.22 errconv

ERROR CONVERSION

Error codes are slightly incompatible, so don't wonder when you get inadequate error message. When a drive on PC is empty or unreadable, the DOS error requester will appear in both cases. This happens because it is almost impossible to recognize whether the drive is empty or the disk in it is unreadable without direct drive access (reading a track). Write protected floppies causes usual error requester.

1.23 hints

TIPS AND HINTS

- If you mount device automatically at startup, it is a good idea to set the ACTIVATE tooltype and the Activate entry in the mountlist to 0. It will cause system to load and run handler when it is used for the first time and not when it is mounted. But this is not necessary under WB 2.0, because it does not automatically activate mounted devices.
- If you turn off PC, disconnect computers or exit device on Amiga and type the "avail flush" command unless your system will become slow. It is a "feature" of serial.device, not mine.
- For troubleshooting, read
this
.

1.24 bugs

KNOWN BUGS AND PROBLEMS

- Although PC2Amiga does not require 7-wire cable (RTS/CTR handshaking), some serial devices (baudbandit) are not able to turn it off, so it won't work with just 3-wires.
- Renaming directories does not work - MS-DOS is unable to do it.
- Cannot be used with the 'baudbandit.device', because it doesn't support SCMD_BREAK. (I resourced it and added the "break" command. But it is still not able to work on 115200 on A500 - just 57600.)
- Notification does not work with DirectoryOpus. It seems OK from me, but I'll have a look at it again.
- Returned disk size (and free bytes) is inadequate (it's always the same).
- Error requesters (Disk is write-protected etc.) doesn't work when PC side ran as a TSR. I suppose it will never work (MS-DOS is very dirty system).
- Printing redirection does not work well with Amiga TeX.
- You cannot lock "pc:prn" etc., so you can't "copy" anything to it (just "type", but it damages binary files). I will improve it.

1.25 planes

PLANES FOR FUTURE

General:

- Write communication routines using parallel. It is very near. I already wrote some routines using LapLink parallel cable. I have to improve them a little bit and include into the PC2Amiga.
- Support long filenames. BTW: If anyone knows how to get long filenames under W95 or OS/2, please let me know.

Amiga:

- Write my own serial routines that will be able to transfer 10 KB/s on A500.
- Add option that would cause PC2Amiga to make volume for every PC drive.

PC:

- Configurable buffer size (file will not contain 17KB of junk).

1.26 legal

LEGAL STUFF

This product is freely distributable as long as the archive goes unchanged. It can be included in any non-profit shareware or similar program package without specific permission from the author, but if you do so, please let me know.

The program is provided AS IS, without warranty of any kind, all use is at YOUR OWN RISK.

Author
is not responsible for ANY data lost or damaged by
this software.

PC2Amiga is freeware. You don't have to pay for it. But if you found it useful, you can send me anything you consider as a support for its further development (I would really appreciate some more time, if you have any :-).

1.27 author

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- Pavel Troller (patrol) for help with testing.
- Stefan Walter for his SIM (Sistem Independent Monitor) which helped me very much with debugging
- All people who sent me ideas and bugreports

1.28 pc2am-handler

This is the main part - filesystem. Written in pure asm.

1.29 mountreceipt

Tells the mount command how to mount the device. Also used ←
for
configuration purposes - see
Config/Amiga
.

1.30 pc2amiga.exe

Resident PC 'slave' program. See also
PC part notes
.

1.31 pc2am_nr.exe

Not resident PC 'slave' program. See also
PC part notes
.

1.32 pc2amdeb.exe

This one is used when there are problems with running ←
PC2Amiga. It
generates some debug info. This info is then passed to
PC2AmAna
.

1.33 pc2amana

Analyses PC and Amiga configuration file and also output from
PC2AMDEB

Tries to determine what's wrong. Then prints resultcode, which is used in

PC2AmProblems.guide

1.34 igslibrary

This is my own library that makes use of intuition and ↔
gadtools much

easier - you just point to extended gadtools' gadget structure that contains pointers to routines and call igsOpenWindow or igsOpenWindowTags. Then you call the igsHandleGMsg function and it will call routines according to gadgets... All is tracked - when you close the library, it will be automatically closed too.

List of routines (from autodoc):

TABLE OF CONTENTS

igs.library/igsAddTracker
igs.library/igsAlert
igs.library/igsCleanup
igs.library/igsCommandItemAddr
igs.library/igsControlMsgs
igs.library/igsCreateGadgets
igs.library/igsCreateGadgetsDefs
igs.library/igsEasyRequest
igs.library/igsEvaluate
igs.library/igsEvaluateError
igs.library/igsFreeTracker
igs.library/igsGetIDCMP
igs.library/igsHandleGMsg
igs.library/igsItemAddr
igs.library/igsMultiRequest
igs.library/igsOpenScreen
igs.library/igsOpenScreenTagList
igs.library/igsOpenWindow
igs.library/igsOpenWindowTagList
igs.library/igsPrintErr
igs.library/igsSetCleanupRoutine
igs.library/igsSetMenu
igs.library/igsSimpleRequest
igs.library/igsStoreGetIDCMP
igs.library/igsStoreWaitIDCMP
igs.library/igsText
igs.library/igsWaitIDCMP

Support for C is also available. This library is not on Aminet. If anyone interested, mail me .

1.35 installscript

Script for the CBM's
 Installer
 . See also
 Instalation
 .

1.36 installer

An instalation utility by Commodore. Can be got from any aminet site e.g., ftp.luth.se.

1.37 history

Version 3.2 (15-Dec-95) (public release)

- The message 'Cannot open xxx.device unit n' is now printed correctly
- RTS/CTS requirement removed, can be used with 3-wire cable now (see

problems
).

- Configuration script now copied into C:
- Main guide divided into four sections to be more lucid.
- Long filenames support added.
- Further changes in serial routine (on PC). Now it can run on 115200 without problems.

Version 3.2 beta (26-Nov-95) (beta release)

- Fixed bug that caused bad printing of messages with some versions of exec.library.
- Added possibility of using all IRQs from 2 to 7 no matter for which port.
- Fixed nasty bug I've been hunting for from the beginning, that caused program to not work on IRQs other than 4 (i.e. COM2, ...).
- Added debugging, written PC2AmigaProblems.guide, written PC2AmAna.
- Some further changes in serial routines.
- A brand new icon set

Version 3.1 beta (29-Sep-95) (beta release)

- Added possibility of slowing down PC->Amiga but not Amiga->PC transfer (just a trial staff, not available for public).
- PC serial routines rewritten to get enough speed performance on slower PCs

- Fixed bug that caused crash of Amiga handler when it was restarted.

Version 3.0 alpha (14-Jul-95) (beta release)

- Program made commodity
- Gopher-like and Background progress indicators implemented
- PC receive interrupt routine rewritten to be faster
- Configuring via config file
- A bug in filename conversion fixed - it badly converted names like 'pc:c/dbase.dat/'. (To the one who reported it: Sorry, I lost your name, e-mail me please).

Version 2.4 (4-May-95) (public release)

- Bug that caused impossibility of reading from write-protected files fixed.
- Locking using the exclusive mode no longer sets file size to 0 (This most often happend when adding to an archive on the PC by LHA)
- Now programming also FIFO register on PC, so I think problems with impossibility to get connection after running TWIN (and other too) are solved.

Version 2.3 beta (internal release)

- More than one char device names on PC allowed - now you can use pc:prn for printing via PC.

Version 2.2 (26-Mar-95) (first public release)

Version 2.2 beta (1-Mar-95) (beta release)

- Feature that caused DOpus to re-read directories every time removed
- Notification support added
- Delete and Rename now tests if object is locked
- Minor changes in this guide
- Added progress indicator (LED)
- File transfer slightly rewritten so that you are able to reset PC and re-run PC side when transferring without loosing any data
- Startup packet added
- PC2Amiga's second task's priority is now -1
- Not resident version of a PC software is now quited when you quit Amiga part
- Not resident version lists files as quick as the resident one

Version 2.1 beta (25-Feb-95) (beta release)

- Bug that caused crash when changing date with DOpus fixed (wow !!!)
- Fixed some problems with creating directories

Version 2.0 beta (20-Feb-95) (beta release)

- Written installer script
- Doc rewritten to the AmigaGuide format
- Communication packetized
- Added checksums
- Added timeouts
- Added output window and possibility of controlling from it
- Bug that caused assigns don't work fixed
- PC part made also as a resident
- Configurable (speed and comm) PC part
- Configurable speed, packet size and timeouts

Version 1.1 beta (End of Jan-95, unreleased)

- Added possibility of using another device than serial (via mountlist)

Version 1.0 (Jul/Aug-94, unreleased)

First version: no packets, no timeouts, no chechsums, no config, ...

1.38 copyfloppy

Format a DD floppy disc on the PC ("format A: /F720") and then mount the PC0: device on Amiga. Copy desired file(s) to this device and then read it by PC. You may also use HD disk, but you must have a HD drive in your Amiga.

1.39 copytwin

Download the package (I think it is on the Aminet) and copy it using this program.

1.40 copyterm

Connect PC and Amiga with serial cable and run a terminal program on both machines. Select "download" on PC and then "upload" on Amiga.

NOTE: Be sure you have choosen the same protocol and speed on both machines. And please note that there may be incompatibility between PC and Amiga protocols. (I recommend you ZMODEM, it is the best available protocol I know.)

1.41 cable

SERIAL CABLE

Cable can be bought in a computer store or made from a 7-wire (or more-wire) cable and 2 connectors. You will find below how the different signals are wired along with the pinout in use on cable connectors having 9 or 25 pins:

=== AMIGA ===		===== PC =====			
25PIN	SIGNAL	SIGNAL	9PIN	25PIN	
07	GND	<-> GND	05	07	
02	TD	<-> RD	02	03	
03	RD	<-> TD	03	02	
05	CTS	<-> RTS	07	04	
04	RTS	<-> CTS	08	05	
06	DSR	<-> DTR	04	20	
20	DTR	<-> DSR	06	06	

On Amiga there is always 25-pin connector.
On PC you may have either 9-pin or 25-pin connector.

1.42 printing

HOW TO PRINT ON PRINTER CONNECTED TO PC VIA PC2AM

A guy (sorry, I forgot who was it) suggested to learn my "network" to print on printer connected to the remote computer. I didn't want to do this, because PC2Am is a filesystem and not real network. But then I realized that it is simple. The solution is to make "devices" on PC such as CON, AUX, COM and PRN accesible from Amiga.

So if you write "Type TextFile.txt to pc:con", you will see the text scrolling on the PC's console. You may even type "Type pc:c/autoexec.bat to pc:con" which will type on PC it's own autoexec.bat. But how to print the files:

If you want to print a text file, type "Type ThatFile to pc:prn".

If you want to print binary file, don't use copy - it will fail. The "pc:prn" device cannot be locked (yet). So the only way how to print something another than a text is to redirect the parallel device using the CMD tool (is on WB disk, call it "sys:tools/CMD parallel pc:prn") and then print it (e.g., from Multiview if you want to print the picture).

WARNING: Don't play with reading from PC devices, it can lock up the PC side (e.g., never type "type pc:aux") !!!

1.43 troublesh

TROUBLE SHOOTING

As I got many letters from people that PC2Amiga doesn't work and because it is very hard to debug, I have written a whole guide of PC2Amiga troubleshooting. It asks you questions and you answer by clicking on buttons. It also uses the

PC2AmAna
program to process
debugging output, which may tell what's wrong.

If you click [here](#) , you can look at it.

1.44 systems

Amiga

Linux

Mac (Apple)

MS-DOS

OS/2

Windows

1.45 amiga

I'm not thinking about writing a client for Amiga. ParNet, SerNet or ParBench are better, because they don't have to bother with inter-system problems.

1.46 mac

No serious information available. It should work under some emulator, but maybe you will have some trouble making cable (MAC does not use RS-232).

1.47 ms-dos

PC2Amiga has been developed under MS-DOS, so there should not be a problem.

1.48 windows

Betatesters reported that PC2Amiga works under Windows 95 without problems, but just the not-resident version.

When running under Windows 3.x, there's a problem, because my task cannot get interrupts unless its window is activated...

1.49 linux

It can be run under Linux, but you must use MS-DOS emulator. I tried it by myself. It works even better than under a real MS-DOS :-). Of course, there is a problem with accessing files that are under Linux.

1.50 os2

E. Mikelsen reported that not resident version works well under OS/2.

1.51 threewire

3-WIRE SERIAL CABLE

This is especially useful for long-distance transfers. But it cannot be bought (I think) and there may be also some problems when used with not-standard serial device.

=== AMIGA ===		===== PC =====		
25PIN	SIGNAL	SIGNAL	9PIN	25PIN
07	GND	<-> GND	05	07
02	TD	<-> RD	02	03
03	RD	<-> TD	03	02

On Amiga there is always 25-pin connector.

On PC you may have either 9-pin or 25-pin connector.
