PC2Amiga

COLLABORATORS

	TITLE : PC2Amiga		
ACTION	*NAME*	*DATE*	*SIGNATURE*
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REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

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PC2Amiga

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USER DOCUMENTATION
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1.2 purpose

PROGRAM PURPOSE & ABOUTS

Have you ever transfered 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.   But TWIN 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, 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 :-)

1.3 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
            .

1.4 files

PACKAGE TREE

PC2Am (dir)
  C (dir)

            PopPC2Am
               L (dir)

```
                    pc2am-handler
                          DEVS (dir)
              DosDrivers (dir)

                    PC
                              PC.Info
           PutToPC (dir)

                    PC2AMIGA.COM

                    PC2AM_NR.COM

                    Install
                          Install.Info
           PC2Am.guide
           PC2Am.guide.info
        PC2Am.Info
```

1.5 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).

1.6 howtostart

                   HOW TO START

     Run program on PC and mount device on Amiga. Now you can access PC
drives via logical device "PC:" (or else, if you rename it). In the main PC:

directory 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".
     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.

1.7 pcnotes

                    PC part notes

     There are two copies of the PC software (PC2AMIGA.COM & PC2AM_NR.COM).
First is resident but is not able to remove itself (yet, I will do it). The
PC2AM_NR.COM file is not resident but may be quit by pressing the BREAK
combination or quitting the Amiga part - see
                  Controlling program
                  .
     Unfortunatelly both PC2AMIGA.COM and PC2AM_NR.COM are worthless under

                   Windows
                   .   They run fine but when their window is not active, they stops
responding untill the window is activated again. What a stupid system.
(
                   Windows
) Maybe I'll have a look on it, do special W's version or so...

1.8 control

                    When you press CTRL-E in the output window, the '>' prompt ←
                      appears and
you can enter one single-letter command. (If you have closed the window, run
the
                  PopPC2Am
                  program which will pop it.) List of possible commands (case is
ignored):

     ? (Help) - Gives list of commands with short description

     C (Cancel 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.

    I (Print info) – Shows current configuration and a transfer statistics.

    H (Help) – Gives a list of commands with short description

    X (Exit handler) – 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.

1.9   config

          Amiga

          PC

1.10   confamiga

    Amiga handler is configured via mount receipt in the DEVS:Dosdrivers/PC file. Field meaning is following:

```
FileSystem  Standart handler mount field - do not change
Stacksize   --- || ---
Priority    --- || ---
GlobVec     --- || ---

Device      Device to be used (usually serial.device)
Unit        Unit of the device, usually 0
Flags       Flags for the OpenDevice function, usually 0
Baud        Speed  to  communicate  on.  Be  sure you have set the same
            speed for both PC and Amiga.

MaxTransfer Specifies  maximal  length  of packet to be transfered.  All
            values between 128 and 8192 (inclusive) are accepted.  Usual
            values are 2048, 4096 or 8192.

Surfaces
            Has  meaning different from the name.  This value is timeout
            in  the  TENTHS of second.  Set it according to the Baud and
            MaxTransfer  values.  Specifying  this  value too small may
            cause  that communication will not work.  When it is too big
            there will be too big delays when an error occurs.
            NOTE:   Timeout is used twice.  First is between completeing
            sending  packet  and  receiving something and the second one
            between  the  beginning  and the end of receiving.  There is
            only  one  value  for  both  cases.  Maybe it will change in
```

```
                    future.
                    NOTE  2:   If  you  put  here  zero,  no  timeouts  will  be
                    performed. (Not wise...)


        BlocksPerTrack
                    Specifies progress indication method.  Now only 0 (NONE) and
                    1 (LED) are supported.


        LowCyl      Just  for satisfying the mount command, maybe it will be
                    used for some config purposes in future, so leave it 0.
        HighCyl     --- || ---
```

1.11 confpc

```
    PC  has no config file, it is configured via command line params.  There
are two options (which can be combined):

    S (Speed)
    Usage: 'pc2amiga sN' where N is number from 0 up to 7 specifying speed:

    N Speed (baud)
    0   1200
    1   2400
    2   4800
    3   9600
    4  19200
    5  38400
    6  57600
    7 115200

    C (COM)
    Usage:   'pc2amiga cN' where N is number of the comm port (1 through 4).

    Defaults are 6 (57600) for speed and 1 (COM1) for port.

    Exaple:  When  you  run  'pc2amiga  s3 c2', it will communicate on 9600
    bauds via COM2.
```

1.12 conversions

```
                    Filename conversion

                    Protection bits conversion

                    Date conversion

                    Error conversion
```

1.13 filenameconv

```
FILENAME 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.

1.14 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.

1.15 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.

1.16 errconv

```
ERROR CONVERSION
```

Error codes are slightly incompatibile, 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.

1.17 hints

TIPS AND HINTS

- If you mount device automatilcally 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.

- 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 "feature" of serial.device, not mine.

- If you can't get connection, try at slower speeds 9600, check cable
  (run terminal programs on both sides and try if computers can see each
  other by typing anything).

1.18 bugs

KNOWN BUGS AND PROBLEMS

- 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. (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).

1.19 planes

PLANES FOR FUTURE

General:

- Write communication routines using parallel.

Amiga:
- Write my own serial routines that will be able to transfer 10 KB/s on
  A500.
- Add more options according to suggestions
- Add another kind of indicator (like Gopher ones)

PC:
- Make program working under
             Windows
                   - Learn resident to quit
- Test if resident is already installed
- Configurable buffer size (file will not contain 17KB of junk).

1.20 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.

    The program is provided AS IS, without waranty of any kind, all use is
at YOUR OWN RISK.
                Author
                is not responsible for ANY data lost or damaged by
this software.

1.21 author

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      very much with debugging

– All people who sent me ideas and bugreports

1.22 windows

Taken from The Big Webster's Dictionary of Computing:

WINDOWS (n.) The worst windowing system ever.

1.23 poppc2am

Writes a text to PC2Amiga handler's console so that the console will
open up if closed.

1.24 pc2am-handler

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

1.25 mountreceipt

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

1.26 pc2amiga.com

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

1.27 pc2am_nr.com

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

1.28 installscript

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

1.29 installer

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

1.30 history

```
  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 transfering 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 paketized
    - 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, ...
```

1.31   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.

1.32   copytwin

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

1.33   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.)

1.34   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.

1.35   printing

    HOW TO PRINT ON PRINTER CONNECTED TO PC VIA PC2AM

    A guy (sorry, I forgot who was it) suggested to lern my "network" to
print on printer connected to the remote computer. I didn't want to do this,
because PC2Am is 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") !!!