PC2Amiga

	COLLABORATORS			
	TITLE : PC2Amiga			
ACTION	*NAME*	*DATE*	*SIGNATURE*	
WRITTEN BY		July 16, 2022		

	REVISION HISTORY		
NUMBER	DATE	DESCRIPTION	NAME

Contents

Chapter 1

PC2Amiga

1.1 main

```
                          PC <--> AMIGA TRANSFERER
                   VERSION  3.8
                USER DOCUMENTATION
```

For users of old version of PC2Amiga

About, requirements, future, legals

How to install & run program

Miscellaneous notes (not bugs)

Tips, bugs, FAQ

Author

1.2 menu1

About (Purpose)

Requirements

Results

Files in the package

Legal stuff

History

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1.6   important

IMPORTANT CHANGES THAT MAY CONFUSE OLD USERS

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

1.7 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 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 6.0 or higher.
Both computers must have serial or parallel ports connected with

                 proper cable
                 .

     (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). It means
when you will copy a file, divide its length by this number and you will
get real amount of time it will take to transfer it.

     You may test your speed by the
                 PC2AmSpeed
                 utility included in

the package. But its results are not as precious, effective rates may be
a little bit slower. But it is better than nothing.

```
+----------------+-------------+-----+-----+--------------+
| Cable [, Rate] | Direction   | Src | Dst | Speed [KB/s] |
+----------------+-------------+-----+-----+--------------+
```

A500/7Mhz <-> AMD DX5/133MHz
```
+----------------+-------------+-----+-----+--------------+
| 8-Wire Special | AMIGA -> PC |  HD | RAM | approx. 28.5 |
+----------------+-------------+-----+-----+--------------+
| 8-Wire Special | PC -> AMIGA |  HD |  HD | approx. 41.5 |
+----------------+-------------+-----+-----+--------------+
```

A1200, Turbo (EC030/40Mhz) <-> 486DX2/80Mhz
```
+----------------+-------------+-----+-----+--------------+
| 4-Wire LapLink | AMIGA -> PC | RAM |  HD |         35.1 |
+----------------+-------------+-----+-----+--------------+
| 4-Wire LapLink | PC -> AMIGA |  HD | RAM |         19.5 |
+----------------+-------------+-----+-----+--------------+
```

A500/7Mhz <-> PC 386SX/40MHz
```
+----------------+-------------+-----+-----+--------------+
| 4-Wire LapLink | AMIGA -> PC |  HD | RAM |         18.5 |
+----------------+-------------+-----+-----+--------------+
| 4-Wire LapLink | PC -> AMIGA |  HD |  HD |         11.3 |
+----------------+-------------+-----+-----+--------------+
```

Almost all Amigas (serial)
```
+----------------+-------------+-----+-----+--------------+
| Serial,  57600 | AMIGA -> PC |  HD | NIL |          4.9 |
+----------------+-------------+-----+-----+--------------+
| Serial,  57600 | PC -> AMIGA |  HD |  HD |          4.8 |
+----------------+-------------+-----+-----+--------------+
```

1.10 files

```
                  PACKAGE TREE

   PC2Am (dir)
     C (dir)

             PC2AmSpeed

             GetPCSpecs

             SetPCSpecs
                  L (dir)

             pc2am-handler
```

```
                        Storage (dir)
          DOSDrivers (dir)

                  PC
                          PC.Info
       DEVS (dir)

                  PCEntry
                        Libs

                  igs.library
                        PutToPC (dir)

                  PC2AMIGA.EXE

                  PC2AMRES.EXE

                  PC2AMDEB.EXE

                  PC2AMCFG.EXE

                  PC2AMANA.EXE

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

                  PC2AmProblems.guide
                        PC2AmProblems.guide.info
       PC2Am.Info
```

1.11 pcspecs

GetPCSpecs and SetPCSpecs are used internally by Amiga configuration
script ConfigPC2Amiga. They should be installed in the 'C:' directory,
otherwise configuration script won't work.

1.12 pc2amspeed

PC2AmSpeed is a small utility to measure approximate transfer speed. It
writes and reads a few 100 KBs and then tells you transfer rate (in bytes per
second). You should take this as an approximate value, because it may differ
from effective transfer rate (hopefully not very much).

It creates a file on measured filesystem, so it must know path to a
writeble directory. By default, this is pc:c, but you may change it
do measure access to speed to, say, a diskette in PC drive. On the disc
there must be at least 50KB free. So to do this, type PC2AmSpeed pc:a".

You may ask, what happens when you give another directory, which is not
on PC. In this case, program will also measure transfer rate, so you may use
it to get transfer rate of your hardrisk. But as I stated before, results
may not be very accurate.

The test is run for 45 secs for write and 45 secs for read, but it may
sometimes take a few more seconds on slow medias (PC2Amiga via serial).

You can interrupt the program using CTRL-C. But the program may not
break immediatelly. It checks break whenever a dot is printed out.

1.13 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 can use both parallel or serial port to transfer data.
With different ports and
cables
you will get different

speeds
.

1.14 howtostart

HOW TO START

Install
program running the InstallPC2Amiga script (for
Installer
).

Configure
both sides.

Run program (PC2AMIGA.EXE) on PC and mount device on Amiga. If no
'PC' icon appears on WorkBench, try list pc:. It should list
all drives on PC. The icon will appear a few seconds after this action.

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.

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.

1.15 pcnotes

                    PC PART NOTES

There are three copies of the PC software (PC2AMIGA.EXE, PC2AMRES.EXE
and PC2AMDEB.EXE).

            PC2AMIGA.EXE
            is not resident, but you may be quit it by pressing the BREAK
combination or quitting the Amiga part – see
            Controlling program
            .

            PC2AMRES.EXE
            file is resident but it is not able to remove itself.

            PC2AMDEB.EXE
            is fully working and prints debug info.

1.16 control

Program is commodity and its interface can be popped up by any commodity
controller (exchange) or by hotkey (configured in the ConfigPC2Amiga
script.

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/parallel.

     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.

1.17 config

              Amiga

              PC

1.18 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.

1.19 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 menus with little help, no problem here.

1.20 conversions

Filename conversion

Protection bits conversion

Date conversion

Error conversion

1.21 filenameconv

FILENAME CONVERSION

If you are
running PC2Amiga under Windows 95
, no filename
conversion is applied. Program automatically recognizes whether it is
necessary to convert filenames.

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
MS-DOS's impossibility to have file with empty first part of name.

1.22 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 MS-DOS is unable to make writable but not
deletable file. (Does anyone know system except Amiga which could do it ?)

1.23   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.

1.24   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.

1.25   faq

```
              Q: When I mount PC:, nothing happens. PC2Amiga icon appears
   after I do list pc: (or do something similar).
 A: When PC:  device is mounted automatically at startup, it is OK it
    behaves like this.  Otherwise it would bother you with error
    requests, etc.  Otherwise edit DEVS:DOSDrivers/PC file and
    set Activate to 1.


 Q: When I do Info, it reports strange info on the PC device.
 A: It is OK. The only thing I could do is to sumarize info from all
    drives, except 'A' and 'B', but I don't see much use for that.


 Q: Could you make PC2Amiga to be compatibile with ParNet cable?
 A: No.  ParNet cable requires both ports to be able to turn in/out some
    of control bits (not just data), but PC cannot do that.


 Q: Could you make PC2Amiga to be able to remotely run programs on PC?
 A: Probably yes, but I won't do that. I wrote PC2Amiga as a filesystem.
    If you want to control your PC from Amiga, use Linux and not MS-DOS :)


 Q: Could you make also files on Amiga to be accessible from PC?
 A: Probably yes, but it would be a dirty hack. MESSY-DOS supports just
    remote drives, not remote filesystems. It means you would have your
    disk formatted under MS-DOS, or I would have to catch INT 21 services
    and look whether they are for file/dir on Amiga.


 Q: DOpus doesn't enter some directories on double click.
 A: Turn on System/Directories/Expand pathnames checkbox.
```

```
Q: Could you make client for Amiga?
A: Probably yes, but PC2Amiga is designed to be used between real
   operating system and MS-DOS, so it has some limitations. I think
   ParNet is more suitable for this. (But I heard it is slower with
   eight wires than PC2Amiga using four wires :-)

Bugs can be found in the
                bugs
                section.
```

1.26 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
           .
```

1.27 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. Not actually bug in PC2Amiga.

    - 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 well 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 a 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.

   – When PC2Amiga on PC is running using ECP/EPP port and it is rebooted
     by CTRL-ALT-DEL without quitting it, BIOS will not detect that port
     unless you turn PC on/off or press the "Reset" button on its case.
     This is a bug in BIOS + port, that the port is not reset on
     CTRL-ALT-DEL.

   – Dates are shown in GMT for W95's files.

   Other problems (that does not seem to be bugs in PC2Am and I know
how to solve them) may be found in
                 FAQs
                 .

1.28 planes

PLANES FOR FUTURE

General:
– Completely rewrite PC2Amiga. Make it able to use TCP/IP. I also
  plan to make PC2AmParallel.device sana2 compatible and write
  it also for Linux, so you will be able to have fast transfers between
  Amiga and Linux.

Amiga:

PC:
– Make dates fully working under Win95.

1.29 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 waranty of any kind, all use is
at YOUR OWN RISK.
                 Author
                 is not responsible for ANY data lost or damaged by

this software. Neither is he responsible for any hardware damage.

    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 greatly appreciate some more time, if you have any :-).

1.30 author

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    (My name is really 'Michal', not 'Michael')

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    - Pavouk for hardware support
    - 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

1.31 pc2am-handler

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

1.32 mountreceipt

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

1.33   pc2amiga.exe

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

1.34   pc2amres.exe

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

1.35   pc2amdeb.exe

                       This one is used when there are problems with running ←
                         PC2Amiga. It is
fully working version, but it has turned on debugging output. The output is
then passed to
               PC2AmAna
               .

1.36   pc2amana

                     Analyses output from
               PC2AMDEB
               . Tries to determine what's wrong.
Then prints resultcode, which is used in
               PC2AmProblems.guide
               .

1.37   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 CONTENS

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
                  .
```

1.38 installscript

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

1.39 installer

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

1.40   history

```
                   Version 3.8 (27-May-95) (public release)
   - Flushes files on PC on Close(), it is safer.
   - On quit shows how many locks/notify requests are there.
   - Another changes in 8-Wire routines
   - Wrote PC2AmSpeed, an utility to measure transfer rate.
   - 8-Wire parallel routines slightly changed to lower possibility of
     hazard, which occured on Amigas faster than PC.
   - Now shows date for W95 files. TimeZone offset is not working now
   - Read-only files may be opened without problem now
   - Added help requester for 'Cannot transfer ...' requester
   - PC2Amiga can pretend it can do SetComment()
   - Fixed bug in docs in Special cable wiring scheme

 Version 3.7 (16-Mar-96) (beta release)
   - Checksums fastened => little speedup
   - Fixed few things that was not working in the last betaversion

 Version 3.6 (15-Mar-96) (beta release)
   - Minor changes in automounting
   - Number of fails after which a requester appears is configurable
   - Bidirectional parallel routines & all stuff around it written.
   - Checksum changed to additive - more reliable but slower.

 Version 3.5 (21-Mar-96) (beta release)
   - Windows 95's extended filenames support added
   - Fixed bug that caused PC print trash when unrecognized packet got.
   - Fixed trashing of first two characters of the 'Hide' button text.

 Version 3.4 (19-Feb-96) (public release)
   - Parallel routines made more reliable on fast PCs connected with A1200
   - Fixed occasional hazards in parallel routines (not very serious)

 Version 3.3 beta (29-Jan-96) (beta release)
   - Hotkey is configurable from now.
   - Volume node is now added after connecting, WB no longer locks on
     startup.
   - Doc and config script updated

 Version 3.3 alpha (1-Jan-96) (alpha release)
   - Some minor changes in behavior, mostly because PC2AmParallel.device
     returns error on timeout, but standart serial.device not.
   - When unsuccessful in transfering (four timeouts without success etc.),
     brings up a request.
   - Can be be popped up by CTRL LALT 2.
   - Written PC2AmParallel.device, written PC parallel routines


                   Older history
```

1.41   oldhistory

```
                   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 that 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 indicatiors 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 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 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, ...

1.42 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.

1.43 copytwin

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

1.44 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.)

1.45 cables

             To decide which cable will you use, you can see
          transfer speeds
             .

    Note that 4-Wire and 8-Wire is number of wires used to transfer data in
one direction, not number of wires in whole cable.

    I suggest you to use LapLink cable. It is quite reliable and fast. Serial
is too slow and still doesn't work somewhere. Special transfer routines are
not working on sime machines too. LapLink should work almost anywhere.

    PARALLEL CABLES

          4-Wire LapLink

          8-Wire Special
             SEAIAL CABLES

          NullModem

          Three-wire

1.46 laplink4

    LAPLINK

    Four-wire parallel LapLink cable is also known as parallel-nullmodem
cable. It can be bought in computer store (it is commonly used between PCs,
e.g., Microsoft InterLnk/InterSvr can use it).

```
        === AMIGA ===      ==== PC ====
        25PIN  SIGNAL      SIGNAL 25PIN
         02         D0 <-> ~ERROR  15
         03         D1 <-> SEL     13
         04         D2 <-> POUT    12
         05         D3 <-> ~ACK    10
         06         D4 <-> BUSY    11
         10       ~ACK <-> D3      05
         11       BUSY <-> D4      06
         12       POUT <-> D2      04
         13        SEL <-> D1      03
         15         NC <-> D0      02
         24        GND <-> GND     24
```

```
          25          GND <-> GND     25
          SHIELD          <->         SHIELD
```

For those of you, who does not like characters, I've got a graphic
scheme , but this link works only on 3.0+. If you don't have an A1200,
look at the file PC2Am/Doc/LapLink4.iff manually.

Connector is always 25-pin female.

1.47 special8

SPECIAL

This is my own cable, it cannot be bought anywhere. Note that it may not
work on all machines. Because I will be busy within next month I decided to
release new PC2Amiga in spite of the fact 8Wire transfer still may not work
everywhere.


```
          === AMIGA ===     ==== PC ====
          25PIN  SIGNAL     SIGNAL 25PIN
           02        D0 <-----> D0      02
           03        D1 <-----> D1      03
           04        D2 <-----> D2      04
           05        D3 <-----> D3      05
           06        D4 <-----> D4      06
           07        D5 <-----> D5      07
           08        D6 <-----> D6      08
           09        D7 <-----> D7      09

           10       ~ACK <-+---> AUTO LF 14
           11       BUSY <-/

           12       POUT <---+-> ~ACK    10
                            \-> BUSY     11

                            /-> SELECT   13
                            |
                            \-> IORESET 16

           24        GND <-----> GND     24
           25        GND <-----> GND     25
```


NOTE: Because cable is not symetric, PC side requires to have connected
pins 13 and 16 ! It saves you possible hardware damage, when you plug bad
end to bad computer.

Connector is always 25-pin female.

1.48 nullmodem

```
     NULLMODEM 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.
```

1.49   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.
```

1.50   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 (it 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") !!!

1.51 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.

1.52 systems

               Amiga

               Linux

               Mac (Apple)

               MS-DOS

               OS/2

               Windows (MS-DOS 7.0)

1.53 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.

1.54 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).

1.55 ms-dos

PC2Amiga has been developped under MS-DOS, so there should not be a
problem. I repeat that it requires version 6.0.

1.56 windows

PC2Amiga works under Windows 95 without problems, but just ←
                    the
not-resident version. But then it can use long filenames, so no filename
conversion is needed (see
            PC2Amiga under Win95
).

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

1.57 linux

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

1.58 os2

Eivind Mikkelsen reported that not resident version works well under OS/2.

1.59 maillist

PC2AMIGA MAILLIST

There is a maillist for PC2Amiga that is ran by one of PC2Amiga users.
It is not very active yet, because almost noone knows about it. I want it to
be both PC2Amiga news maillist (sent by me) and discuss forum about PC2Amiga
problems and future.

The maillist address itself pc2amiga@megalith.miami.fl.us,
send messages there.

Address for subscribing/unsubscribing and getting infos is
pc2amiga-request@megalith.miami.fl.us. If you want to subscribe,
send message with the text:

ADD YourEMailAddress

in the body. Replace the text YourEMailAddress with your real
e-mail address you want to send maillist messages to. If you want to get
help on the list, send message with the word HELP in the body
(adjusted to the left margin, like previous example).

1.60 betas

WHERE TO GET PC2AMIGA BETAVERSIONS

Before I make it available to public, I put up new versions to our local
anonymous ftp site for betatesters. In the PC2Am directory there is always
last released and last beta version. In the most of cases, betaversion is
just an update only containing updated files.

WARNING: BETAVERSIONS MAY NOT WORK ON YOUR COMPUTER EVEN WHEN OLDER
VERSIONS WORKED OK. KEEP ORIGINAL ARCHIVE. USING BETAVERSIONS IS AT YOUR VERY
OWN RISK.

The anonymous site is k332.feld.cvut.cz, PC2Amiga files are in
the directory pub/local/lemming/PC2Am.

1.61 p2a_w95

PC2Amiga and Windows 95

If you want to keep long filenames for Amiga files, you may use Windows
95's extended filenames. To use this feature you must start Win95, and then
run DOS-Shell. Poping up boot menu and running just DOS 7.0 is not enough.
Dates are still not show correctly (they are in GMT).