ProNET

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ProNET

1.1 ProNET Docs

```
### --                                                              -- ###
                  This is the documentation file for
              ProNET Copyright ©1994 by Michael Krause.
                     This package is FREEWARE.
### --                  * RawStyle@ONLINE.sh.sub.de *               -- ###

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1.2 ProNET Introduction

```
What is ProNET ?

   ProNET  is  a hardware/software combination that installs a small network
```

between two and NOT more Amigas. This can be used to exchange data from
both Amiga's devices. The difference between ParNet, written by Matthew
Dillon and others, and ProNET is that you can mount the other Amiga's
devices as if they were present on this machine, that means you don't have
to access the other 'DF0:' indirectly by using 'NET:df0/...' but you can
mount it as e.g. 'DF2:' on this Amiga. The other device is emulated
PERFECTLY, so that you won't notice that it exists on the other machine in
fact – You can e.g. access a disk in the other 'DF0:' by it's name instead
of having to use 'DF2:', then you can get full information about the status
(% full etc.) – just like as it was a real device in your first Amiga.
   Of course there are extra programs supplied known from ParNET, with which
you can start commands on the other Amiga or just talk between them.
   Full developer information is available for programmers that want to code
extra tools using the pronet.device.

Why did I write ProNET (and why should YOU use it instead of ParNet) ?
   – ParNet doesn't support the new 2.0 and 3.0 DosPackets.
   – ParNet doesn't mount devices directly, thus not mounting the
     disk names (e.g. 'Workbench:', 'my_graphics:')
   – ParNet has problems with recognizing disk changes.
   – ParNet has problems with 'cd's into network-directories
   – ParNet is slow.

   – ProNET is written in Assembler.
   – ProNET is faster (OK, only 10%..)
   – ProNET fixes most other problems known from ParNet.

What is not so good about ProNET (at the moment) ?
   – pronet.device freezes the machine while sending data packets.
   – it's not possible to e.g. reset one side and start the network
     again while the other side stays active.
   – it's also recommended that both sides are switched on while starting
     the network (don't start one side, then switch on the other one and
     start it there).

1.3   ProNET System Requirements

   The software should work on any Amiga, but it doesn't. The
'pronet-handler' makes some problems with Kickstart 1.3, but all the other
programs run on OS1.3 ! But that's OK, because I don't need the handler on
my A500 :-)
   The hardware, which consists of a simple cable, is connected to the
parallel ports. You can use the cable you have used with ParNet – If you
don't have used ParNet before, here are the instructions:

1.4   ProNET Making A Cable

            { Copied from the original ParNet distribution }

The following connections need to be made on a DB25 cable:

You are making a cable that connects the two PARALLEL ports

of your Amiga together.

```
  CABLE:  Connect D7-D0,SEL,POUT, and BUSY across,
    Connect ACK (FLAG interrupt) to SEL locally:

  (2-9)   D7-D0   ------------    D7-D0
  (12)    POUT    -----------     POUT
  (11)    BUSY    -----------     BUSY        PARALLEL PORT
  (13)    SEL     --+------+--    SEL
  (10)    ACK     -/        \-    ACK
  (18-22) GND     -----------     GND  (18-22)
```

Double check the gender for the DB25 connectors you will
need to connect to your Parallel Port.

A500/A2000, Parallel port is Female so you need a Male connector
A1000,   Parallel port is Male so you need a Female connector.

The easiest thing to do is to buy a premade cable with all 25
lines passed and DB25 connectors on both ends (Double check the
gender's that they match before you buy the cable!) And then rip
it apart and cut-and-seal those wires which are not supposed to be
connected. You also need to bridge ACK to SEL as per the diagram
above ON BOTH ENDS OF THE CABLE, as shown above.

  ** NEVER PLUG IN AN UNMODIFIED CABLE BETWEEN THE TWO COMPUTERS!
  ** DOUBLE CHECK YOUR CABLE BEFORE INSTALLATION!

WARNING! INTERFERENCE WITH SERIAL-PORT.

  The RI (Ring Indicate) line on the Amiga's serial port
  uses the SEL line to source a transitor. This interferes
  with the SEL line which, as you can see, is part of the
  network.

  Be sure that

  (a) either no serial cable is attached or that
  (b) It doesn't connect RI or that
  (c) your modem doesn't connect RI internally.

Note from the ProNET author: I didn't hear about any problems from people
owning a modem and using ParNet at the same time - but that doesn't mean i
take any responsibility for damages..

1.5 ProNET Installation

General
  The main part of the network is the 'pronet.device' which contains the
routines necessary for transfering data between the two Amigas. It must be
put into the DEVS: directory on both Amigas.
  Both Amigas must be distinguished by an ID number which is put into the
'ProNET.config' file, also in the DEVS: directory. You'll find this
number in the line beginning with 'pronet-device:'. One Amiga has 0, the
other one has a 1 written here. If this file doesn't exist when opening

the pronet.device, it could lead to unpredictable results, most probably a
system crash. Also, you might not want to have the same number written
here on both sides. This configuration file is always reloaded when
someone opens the device and contains configuration data for all
applications using the device, such as port numbers (unimportant for
user-only persons) etc.

Network (Handler/Server-Stuff)
  To build up the network, you must install 'pronet-server' in the C:
directory on every Amiga you want to control. If you just use one of your
computers as a 'server', that means, no one is working on the machine, you
only need to put this program there. It waits for file requests from the
main Amiga.
  Then put the 'pronet-handler' in the L: directory of the Amiga you want
to control the other one from. Additionally, you'll have to create a
MountList-entry for every device you want to use from the server. You
should copy the example entry distributed with this package. Just change
the device name - and then, what is very important: Don't forget to add a
line in the 'ProNET.config' containing first the device name, then the
device name you want to control on the other Amiga, e.g.
    hd2: hd0:
  If you then mount 'hd2:', every access to 'hd2:' will result in an access
to 'hd0:' on the remote Amiga.

  For further configuration see Configuration.

  Utility Programs

pronet-talk
  This one needs a 'ProNET.config' entry, that is the port number the
program will use. In most cases, the predefined value of 1994 should be
sufficient, unless you mount 1993 devices on the same Amiga of course :-).
Both Amigas should use the same value here.

1.6 ProNET Network Startup

  Run 'pronet-server' on every server machine. Then (or before that) use
the 'mount' command to install the devices on the main machine. It is
ofcourse possible to use both machines crossed over.

1.7 ProNET pronet-talk

  'pronet-talk' is a small program which opens a window on the Workbench.
Everything you type here will be transferred to the other Amiga. If
'pronet-talk' is also running there, the text will be copied to that
window.

1.8 ProNET pronet-run

'pronet-run' lets you start programs on the other side without having to
use its keyboard. Just pass what you would type in the shell of the other
Amiga as the argument of 'pronet-run', e.g.:

```
   pronet-run dir df0:
 or what can be possible, too, though not very useful :-)
   pronet-run pronet-run dir df0:
```

Note that the command is not put in "'"s or similar. Besides that, the
command is started synchronously, that means, the 'pronet-server' will be
ready again when the command is finished. If you want asynchronous
processing, use the 'run' command like this:

```
   pronet-run run dir df0:
```

If you want this command to have a certain effect :) the 'pronet-server'
must be active on the other side. Additionally, Kickstart 1.3 needs the
'run' command in C: !!

1.9 ProNET pronet-page

'pronet-page' opens a small requester on the other Amiga where you can
display a text of your choice. The text is passed as an argument to this
command. The 'pronet-server' must run on the other side. Example:

```
   pronet-page This is an example of how to use 'pronet-page'
```

1.10 ProNET Configuration

Mountlist

Here's the standard Mountlist entry for usage with the 'pronet-handler':

```
CD0:  Stacksize = 4096
  Priority  = 10
  GlobVec   = -1
  Unit    = 0
  Flags   = 0
  Device    = devs:pronet.device
  Surfaces  = 0
  BlocksPerTrack  = 0
  Reserved  = 0
  LowCyl    = 0
  HighCyl   = 0
  FileSystem  = l:pronet-handler
  Mount   = 1
#
```

There are 3 lines that may be interesting: At first, the 'Mount = 1'
line instructs the 'Mount' command to load the handler immediately, thus
installing the 'pronet.device', which results in waiting for the other

machine.   If   you   want   to   mount   all   the   network   devices   in   your
startup-sequence (or the DEVS/DosDrivers directory) for later usage, you
have to change the '1' into a '0'. So when you intend to startup the
network you just make a 'dir cd0:' for example without having to mount it
at first !

   Then I've coded the handler in a manner that it doesn't strictly open the
'pronet.device', but opens the device that is entered in the 'Device = ...'
line.   That may become interesting in future, when someone writes new
devices for other ports and interfaces. Then you can enter the name of
this device here ! The 'Unit' and 'Flags' fields are also inserted when
opening the device, but should stay zero for the original 'pronet.device'.
   Note: If another device is to be used you must start the 'pronet-server'
on the other Amiga with the name of the new device as the first argument,
otherwise it uses the 'pronet.device' !!

   The 'HighCyl' line: It can be possible that network-volumes have the
same name as a volume on the main computer, e.g. when putting together two
Amigas with hard disk, both having a partition called 'Workbench'! That
may cause you and AmigaDOS problems. To avoid this, you can change the 0
into a 1 in this line. Then ProNET inserts a '+' at the beginning of every
volume name inserted in the corresponding device.

1.11   ProNET Known Bugs

   The filerequester of the 'reqtools.library' doesn't recognize the network
drives.   At least they aren't in the Drives-List. Workaround is to type
the device name directly into the string gadget. I don't know why –
perhaps it doesn't like my VolumeNodes ? :)

   Further Bugs are not known.

1.12   ProNET Supported DosPackets

   ProNET supports all new DosPackets introduced with V36 and V39: Perhaps
you've sometimes seen one of these '2.0 Pkt ACT_PARENT_FH' requesters from
ParNet – they are no longer annoying you.. So this is a list of all packet
types supported by ProNET:

   Name   introduced with

   ACTION_FINDINPUT
   ACTION_FINDUPDATE   V33
   ACTION_FINDOUTPUT
   ACTION_END
   ACTION_READ
   ACTION_WRITE
   ACTION_SEEK
   ACTION_CURRENT_VOLUME
   ACTION_SET_FILE_SIZE   V36
   ACTION_LOCK_RECORD   V36

```
ACTION_FREE_RECORD     V36

ACTION_LOCATE_OBJECT
ACTION_FREE_LOCK
ACTION_COPY_DIR
ACTION_PARENT
ACTION_SAME_LOCK      V36
ACTION_CREATE_DIR
ACTION_CHANGE_MODE     V36
ACTION_FH_FROM_LOCK    V36
ACTION_COPY_DIR_FH     V36
ACTION_PARENT_FH      V36
ACTION_EXAMINE_OBJECT
ACTION_EXAMINE_NEXT
ACTION_EXAMINE_FH     V36

ACTION_DELETE_OBJECT
ACTION_RENAME_OBJECT
ACTION_MAKE_LINK      V36
ACTION_READ_LINK      V36
ACTION_SET_COMMENT
ACTION_SET_DATE
ACTION_SET_PROTECT
ACTION_INFO
ACTION_RENAME_DISK
ACTION_INHIBIT
ACTION_FORMAT        V36
ACTION_SERIALIZE_DISK   V39
ACTION_MORE_CACHE
ACTION_WRITE_PROTECT
ACTION_IS_FILESYSTEM    V36

ACTION_NIL
ACTION_FLUSH
ACTION_DISK_INFO

These packets are not yet supported:

ACTION_EXAMINE_ALL     V36
ACTION_EXAMINE_ALL_END    V39
ACTION_SET_OWNER     V39
ACTION_GET_DISK_FSSM
ACTION_FREE_DISK_FSSM
ACTION_ADD_NOTIFY     V36
ACTION_REMOVE_NOTIFY     V36
```

1.13 ProNET Security

There's a poor bug in the OS, which hasn't been fixed up to now: The
'parallel.device' doesn't check if the parallel port has been allocated by
a different program before. With an active 'pronet.device', this leads to
a destroyed network handshaking. ParNet didn't take care of this case, but
I did so: The 'OpenDevice' call in the 'exec.library' is patched – tries
of opening the 'parallel.device' are immediately rejected with an error.
And for the case that another program changes the hardware registers, these

are checked by the 'pronet.device' before sending anything. If this is the
case, my device will open a requester requesting you to save all data not
saved yet, because the network is already useless !

   To cut it short: Painting programs or word processors etc. opening the
'printer.device' on startup don't succeed in doing this any more ! If this
leads to problems, you can simply start the CMD tool found in the Tools
directory. This one redirects all accesses to the 'parallel.device' into a
file !

1.14   ProNET Some Hints

   If the other side seems not to detect disk changes, just use the
'diskchange' command found in C: on the device. This bug e.g. occures
with my A570 CD-ROM drive – but it's not ProNET's fault – the drive needs a
manual diskchange message.

   When you start the pronet.device on one side, it will wait for signals on
the parallel port. This is done in a busy wait loop, so that means, your
machine will slow down until a connection is established !! CONNECT 1.4E+24

1.15   ProNET Programmers

   I provided the developer information also for the case that some people
might try to write new 'pronet.device's for other ports, such as the serial
one or multiserial cards. The device simply has to be emulated perfectly –
everything it must be able to do, you can draw from the AutoDocs. The
other programs I wrote don't use any 'hidden' features, because there
aren't any !! If the new device works exactly like the original, there
shouldn't be any problems.

1.16   ProNET History

Version 0 tested since 12-Oct-94 (beta test version)
Version 1 released on 1-Nov-94 (initial release) including:
  pronet.device 33.9
  pronet-handler 33.5
  pronet-server 33.5
  pronet-talk 33.0
  pronet-run 33.0
  pronet-page 33.0

1.17   ProNET Disclaimer & Copyright

   I'm not responsible for any damage caused by this program.

   This package is ++ FREEWARE ++, that means, you can do anything with it

as long as you don't charge money for it (not including the copy fee..)
  If you or your firm intends to sell this package, please contact me
first !

  Besides that, this is ++ EMAILWARE ++, so send me an E-Mail if you
use this package ! I'm looking forward to bug reports, too - but I'm afraid
there won't be any :)

1.18   ProNET Credits

  pronet.device, pronet-server, pronet-handler, pronet-talk, pronet-run,
  pronet-page and all related files by
                          ## Michael Krause ##

  pronet cable by

                            ## Matt Dillon ##

  beta testing (thanks!!) by (no order.)
                              ## Jörn Folster ##
                         ## Marco Schmoecker ##
                         ## Carsten Petersen ##
                         ## Peter Steinmeyer ##
                         ## Michael Schepers ##
                            ## Jörg Krause ##
                           ## Patrick Hess ##
                    ## sysop@surprise.wp.sb.sub.de ##
                          ## Thomas Schwarz ##
                  ## wildcat@silicon.harz.sub.org ##
                          ## Thomas Strauss ##
                           ## Robin Stember ##
                         ## Andreas Boerner ##
                         ## Frank Ronneburg ##
                       ## Wolfgang Gutberlet ##
                         ## Christoph Dietz ##
                            ## Sven Gmelin ##
                          ## Nils Mueller ##
                  ## stk@informatik.uni-bremen.de ##
                     ## xt-oli@schnee-2.pfalz.de ##

1.19   ProNET Contact Address

  OK that's simple.. Try to send an EMail to this address:

    RawStyle@ONLINE.sh.sub.de

  If your mail doesn't reach me - well.. bad luck :-)