

ProNET

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Chapter 1

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 transistor. 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 transferring 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 = 1: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. occurs 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 multiseriial 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.)
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Marco Schmoecker ##
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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 :-)
