Amiga Networking FAQ

COLLABORATORS

	TITLE : Amiga Networking FAQ		
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WRITTEN BY		November 28, 2024	

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

Contents

Chapter 1

Amiga Networking FAQ

1.1 Amiga Networking FAQ

```
AMIGA NETWORKING FAQ
Current version 1.5
Date 9/06/94
```

The primary purpose of a FAQ is to preserve network bandwidth by
answering Frequently Asked Questions. A FAQ's second purpose is to
provide an altruistic public service to users and vendors.

```
 Copyrightless & Disclaimer
 Acknowledgments  and  Revisions
 The FAQ
 Related FAQs
 Feedback
```

1.2 Copyrightless & Disclaimer

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 Lack of Copyright Notice
 Distribution policy
 Disclaimer
```

1.3 Lack of Copyright Notice

With the exception of Trademarks which are the property of their
respective owners, the material contained in this FAQ is PUBLIC
KNOWLEDGE, and therefore is NOT copyrightable.

Richard Norman is merely serving as moderator and maintainer.
Anyone has permission to copy any or all of this FAQ, but you do not
have the right to copyright it.

In the event of my demise :-(or if this FAQ should become dormant
for a period of 4 (four) months, someone else is free to assume the
role of moderator and update the FAQ. I'd prefer someone who was

willing to distribute it in as many formats as possible. Current
distribution includes ASCII, and Amiga guide. They should also
distribute it as wide as possible. News.answers and the Amiga home
page on WWW or their predecessors as a minimum.

1.4   Distribution policy

The FAQ may be freely distributed. Portions can be included in derived
works, but may not be exclusively copyrighted
(see   Lack of Copyright Notice)

(i.e. You cannot prevent others from using this information in their
derived works.)

The FAQ is a compilation of a number of people's work, and answers
provided by users and vendors. Therefore it belongs to no one and
to every one (i.e. Public Knowledge).

1.5   Disclaimer

The information contained in this FAQ is supplied "as is" without
express or implied warranty. I make no representations about the
suitability or accuracy of this document for any purpose.

If you have better information, then please share it.
Altruistic submissions are welcome. Feedback

If someone sees errors, let the moderator know,   feedback   and it will
be corrected as time permits.

All information provided here is meant for informational purposes and
is not to be taken as an endorsement for any particular product. (Note:
in most cases only one company provides any given service anyway).
If anyone knows of additional relevant products, let the moderator
know,   feedback   and they'll be added to the list as time permits.

1.6   Acknowledgments and Revisions

Thanks to Richard Gerber for being the original moderator.

Richard A. Gerber
email: gerber@zwicky.arc.nasa.gov

Thanks to everyone who posts answers not flames.

Contributions by: Alan BERNEY, Kai Bolay, Jim Dutton, Juha Koivisto,
Dale Larson, Jukka Marin, Neil McRae, Michael Smith and many
others.

Special thanks to the vendors who took time to support this effort.

And last but not least, Thanks to Stephan Surken for the text2guide
utility which got me started.

```
Date:  4/29/92 -- Original release V 1.0 --  Richard Gerber
Date:  3/02/94 to 4/18/94 -- Update effort --  Richard Norman
Date:  4/18/94 to 4/28/94 -- 1st review cycle -- Richard Norman
Date:  4/29/94 -- news.answers Draft release V1.1 -- Richard Norman
Date:  5/01/94 to 5/12/94 -- added info on X11, GG2, and TorqueWare
       for V1.2 -- Richard Norman
Date: 5/31/94 -- added info on UUCP,GRn, etc. -- Richard Norman
Date: 6/02/94 -- released V1.4 official news version -- Richard Norman
Date: 7/26/94 -- began V1.5 -- Richard Norman
Date: 8/26/94 -- began V1.5 again --Richard Norman
Date: 9/06/94 -- Finished V1.5 -- Richard Norman
```

1.7 The FAQ

The Amiga Guide version of this FAQ is available on Aminet
in the /pub/aminet/docs/help directory.

Due to the method I'm using to write the FAQ, marking the margins to
indicate new material is not feasible. Look for new questions towards
the end of each list.

```
 Product Availability  (A)
 Product Specific
 General  (C)
 Generic  (G)
 Software Specs
 Hardware Specs
 Manufacturers
```

1.8   Product Availability (A)

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   A02      Can I hook up an Amiga 500, 1000, or 1200 to ethernet?
   A03      Is X Windows available for the Amiga?
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-------------v NEW STUFF V---------------------------
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1.9   answers

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```

1.10   A01

 What do I need to hook up my Amiga 2,3, or 4000 to ethernet?

If the following sounds like geek 8-)
then try the Generic (G) section.

You basically have two choices: a direct connection which requires a
ethernet card or a much slower remote connection via the serial port.
An ethernet card is also referred to as an ethernet adapter, an ethernet
controller, or as a network interface card. One reason it is called a
network interface card is that there are other types of networks out
there besides ethernet (ARCNET for example). Ethernet is just
extremely popular.

There are several cards to choose from and they support different
ethernet cable types. See the generic section for a description of cable
types. See the product specs section to see which cards support
which cables.

In addition to the card you will need a protocol to communicate to other
hosts or nodes. See a description of protocols in the generic section.
The protocols all require configuration such as an address which you
should get from your network administrator or service provider.

Ethernet cards:

The A2065 Ethernet Network Interface Adapter is by 'Commodore
Business Machines' . The A4066 Ameristar ethernet card
supersedes the A2065 card.   LAN Rover is by ASDG and is now
called the EB920. Also there is a card called the Hydra . All of these
cards are full size and most are SANA II compatible. Cheap PC
ethernet cards can be used in conjunction withe the GG2 bus+ card
from Software Results Enterprises .

These cards can be used with protocol software such as
Commodore AS225 TCP/IP Networking Software, TSSnet DECnet
software by   Thunder Ridge, Inc. , and Netware by Oxxi .
Also ENLAN-DFS , and Envoy provide Amiga to Amiga networking
using these cards.

Serial port:

If you have a high speed modem and somewhere to dial into for
ethernet access, then you can use either SLIP or PPP with TCP-IP
or one of the AmigaNOS Flavors to become a full fledged TCP/IP
node on the network. It won't be as fast as a direct ethernet
connection, but you can still do a lot. Also, DECnet will work with the
serial port. Again the speed being the big trade-off.

No place to dial into? You can usually find a book on the Internet at a
bookstore that lists the major providers, but your local user groups and
BBS users can provide good insight into which are the best or
cheapest. Or if you have email look at the WAN providers section.

Although it is feasible to use SLIP & TCP/IP over a modem to connect
to a friend's modem and machine, it is not necessary, and is much
more difficult to setup than modem software. Although there are a few
more things you can do with this type of connection, it is not for the
novice at this time.

1.11   A02

 Can I hook up an Amiga 500,1000, 1200 to ethernet?

Yes, Almost all Amiga models can be hooked to the ethernet.
Using the serial port is the cheapest, but the fastest is a direct connect
using an ethernet adapter card.

For the 1200   Interworks has an ethernet card called ICard that will
support the major protocols. They also have some Amiga peer to peer
software products for the ICard.

For the 500 and 1000:
The A2065 has reportedly been used successfully with third-party
expansion boxes, such as Bodega Bay. It has also been reported that
the A2065 card can be used with the Slingshot expansion device used
with an Amiga 500 and a SupraDrive 500XP's pass-through.

The A2065 has been superseded by the   Ameristar   A4066 .
Don't know if it works with the A500 or A1000.

The serial port approach for TCP/IP is supported by several
 AmigaNOS Flavors   or   AmiTCP   or AS225r2   all of which require
 SLIP or PPP to use the serial port. DECnet   can be also be used
with the serial port.

1.12   A03

 Is X Windows available for the Amiga?

 X11R4   full color for the Amiga is available from GfxBase, Inc. .   Also
available are XView, OpenLook, Motif, programmers toolkits,   and
Berkeley sockets library. X Windows supports Commodore TCP/IP
and TSSnet DECnet for ethernet and serial connections, SANA for
local. A demo version is available on Aminet in /pub/aminet/gfx/X11

In the same directory you can find DaggeX. More info on this later.

Also check out the X11 FAQ for help with X specific questions.

1.13   A04

Is DECnet available?

TSSnet DECnet from Thunder Ridge, Inc. allows your Amiga to be a
phase IV end node in a DECnet network. TSSnet supports X11R4
from GfxBase, Inc. which provides DECWindows support for
applications running on a VAX system. TSSnet DECnet can
communicate over ethernet as well as the Amiga serial port.

1.14   A05

Is AppleTalk available?

There are a few implementations of AppleTalk software and LocalTalk
hardware available for the Amiga. For Amiga 2,3, and 4000's the
AMAX board and the Emplant board offer Localtalk and Appletalk
options.

1.15   A06

Is Novel Netware available?

A Novel Netware client package is available from Oxxi
Several people have posted that the client is not SANA II compatible
yet. If you need this, then please contact Oxxi for the latest info.
I hope to post more info in a future version of the FAQ.

1.16   A07

Are there any peer-peer network packages for the Amiga?

Yes, several.

 ENLAN-DFS   from Interworks   provides peer to peer networking and
Distributed File System over SANA II compatible hardware.

 Envoy   from IAM provides peer to peer networking for Amigas that
is tied very close to the operating system. It too is SANA II compatible.

ALAN-FS   is a peer-to-peer network package that allows full
transparent file-sharing, device sharing over ethernet. It requires
WB2.0 and the Commodore AS225 package. It is available from
 GfxBase, Inc , or Canadian Prototype Replicas .
NOTE: Current Product status unknown.   FEEDBACK   appreciated.

Dnet   ---   Dnet has client/server software for both Amiga-Amiga and
Amiga-UNIX networking over a serial line. Among other things Dnet
supports shells, file transfer, IRC, and something like NFS. Dnet is
available on Aminet .   Don't have any more info at this time
 FeedBack appreciated.

PARnet/PARbench --- PARbench is a workbench installable version of
PARnet which allows two Amigas to be networked using a parallel port
and cable. It is basically file sharing.

1.17   A08

Is TCP/IP available?

Yes, three public domain versions, and a commercial version.

 AS225 by Commodore Business Machines is a commercial version
which supports NFS.

 AmiTCP   is a gnu public license version of TCP/IP
(see the AmiTCP FAQ for more details).
AmiTCP is available from Aminet

AmigaNOS and AmigaNOSGW are two AmigaNOS Flavors which

provide TCP/IP over the serial port and modem.
Also AmigaNOS supports a HAM radio/X.25 interface.

1.18   A09

 Is Mosaic available?

Yes, a public domain version called Amosaic is available using FTP
from max.physics.sunysb.edu   Or on Aminet under comm/net.

Updates are available by accessing the Amiga home page using
Amosaic.

It requires AmigaDos 3.x and TCP/IP to access remote hosts.
See the product specific section AMosaic (AM) for more hints.

Also see the generic section for a description of Mosaic.   G08

1.19   A10

Is Gopher available?

Yes, Graham Walter has written a Gopher client for
 AmiTCP and AmigaNOSGW (not to be confused with
John Heaton's AmigaNOS) see AmigaNOS Flavors

There is an   AmigaNOS FAQ   available as well.

The AmiTCP gopher client is available on Aminet

1.20   A11

 Is electronic mail available?

Yes, the DECnet package from Thunder Ridge, Inc.   supports
VMSmail.   AmigaELM supports UUCP mail.

 Both packages require a mail utility on a remote host.

You should also pick up a copy of InetUtils from Aminet. It has a SMTP
client which is suppose to work with AmigaELM. SMTP is the Simple
Mail Transfer Protocol or the Send Mail To People protocol as my
friend calls it. SMTP is a defined standard for email over the TCP/IP
protocol and therefore is widely used on the Internet.
This SMTP client is not suppose to require a remote mailbox.

Graham Walter has uploaded a SMTP daemon for AmiTCP
to Aminet

Also available for both AmigaNOS flavors is a mail agent called BM,

B-Dale's Messy-Dos Mailer. It doesn't have as nice an interface as
Elm, but is easy to use and can build RFC822 formatted files.

There are probably others which I've missed Feedback

1.21   A12

Is OSI or GOSIP available?

To Be Determined   FEEDBACK   appreciated.

1.22   A13

Is network based multimedia available?

InfoChannel is a SCALA, Inc. product that can run over LAN's or
modems. It allows remote Amiga multimedia stations to be controlled
from a central Amiga host. Data can also be stored centrally and
supplied upon demand. InfoChannel also comes with tools and
graphics for creating a multimedia service such as a kiosk.

Also Amosaic can be used as a multimedia hypertext user interface
for both local and remote data.

1.23   A14

Is UUCP available?

Yes, Matt Dillon ported UUCP to the Amiga.
It is currently maintained by Michael Smith.
It is available on Fred Fish and Aminet as AmigaUUCP.

It has it's own FAQ. See UUCP FAQ
There are also generic UUCP FAQ's available in the FAQ archive .

1.24   A15

Is SLIP or PPP available?

 SLIP is available as part of AmiTCP.
You can check the AmiTCP FAQ for more info.
AmiTCP can be found on Aminet . More details on
SLIP will be added to this FAQ as they become known
 Feedback   hint, hint. ;-)

Several versions of PPP are under development. A shareware

version was recently released. I believe it is called PPP.device.
You can look for it on Aminet or watch the comp.sys.amiga.announce
and comp.sys.amiga.datacomm newsgroups for updates.

1.25   A16

Is network parallel programming available?

 TorqueWare (TM) is by AugmenTek   and allows parallel
programming between several Amigas. Also an Amiga running
AugmenTek's TorqueWare can act as a client to a SGI or Mac running
TorqueWare by Torque Systems.

1.26   A17

Is Arcnet available?

Although I don't like to deal with vaporware, I have an official
announcement from CSA that they intend to release some very
interesting Arcnet products around the first of the year. So stay tuned.

Arcnet runs at about 2.5 Mbits/sec which is a lot faster than parnet or
Appletalk, but not as fast as ethernet. Arcnet hardware is cheaper than
ethernet, however, so for a small shop may be a better deal.

1.27   A18

What is TIA, and is it useful to an Amiga User?

TIA <==> The Internet Adapter (TM)
by Cyberspace Development, Inc. (CSD).
marketplace.com

It is a commercial software product that enables shell account users to
have partial SLIP access to the Internet without paying the extra
monthly surcharge, and without having to have an Internet address.
Since TIA runs on the service providers host, Amiga users can take
advantage of it too.

Although the service provider misses out on some revenue, they also
miss out on a lot of management headaches from SLIP. Check with
your service provider to see if TIA is endorsed.

The drawback to TIA is that you don't have your own internet address,
and therefore no one can telnet or FTP to your machine. This does not
stop you from running Mosaic or FTP *OUT*. Just the incoming is
unavailable. In other words you can act only as a client not a server.

Another drawback is that you still have to have SLIP on the Amiga

side. TIA basically sets up a unidirectional software gateway that
speaks SLIP to your Amiga over the serial port of the host, and TCP/IP
over the host's ethernet card. TIA doesn't allow the AmiTCP packets
to pass directly to the Internet therefore your machine has no address
as far as the Internet is concerned. The Internet only sees the service
host. TIA merely forwards the packets.

```
|====< AMIGA >=============================|
| AMosaic---AmiTCP---SLIP---Amiga serial port-|-->
|=========================================|

modem<-----serial line----->modem

   |====< Service Host >======|
<--|---host serial port---    |
   | ---your Shell Account--- |
   | ---*_TIA_*---TCP/IP--    |
   | ---host ethernet port----|-->
   |=========================|

<---INTERNET---> WWW http server
```

There are well written docs available on line from CSD that explain TIA
much better. You can FTP them from marketplace.com. You can also
use gopher and Mosaic to the same site.

1.28 Product Specific

Amosaic section is NEW!

```
 Commodore TCPIP (B)
 Envoy (E)
 AMosaic (AM)
 AmiTCP (AT)
```


1.29 Commodore TCPIP (B)

          Questions about Commodore's TCPIP software

 B01   I can't login to my Amiga over the network. Why?
 B02   When I FTP to some hosts, I get part of an introductory
  message and then either the network hangs up or
  the connection gets closed. Why?
 B03   Is Domain Name Resolution available with the AS225 software?
 B04   Can I use NFS to mount a partition on my Amiga from a remote
  machine?
 B05   I can't use FTP, rsh or rcp into my Amiga. Why?
 B06   FTP into my Amiga works, but rsh and rcp into my Amiga don't.
 B07   I can communicate with machines on my network/floor/building,
  but I can't communicate with other machines even though they
  are in my   inet:db/hosts file.

answers for CBM TCP-IP

1.30   answers for CBM TCP-IP

B01
B02
B03
B04
B05
B06
B07

1.31   B01

I can't login to my Amiga over the network. Why?

The AS225 software does not support interactive remote logins to the
Amiga.   It does have servers for rsh (remote shell), rcp (remote copy)
and does support remote FTP logins. rsh allows you to execute
commands on the Amiga, but does not allow an interactive shell.

Late breaking news which I haven't had time to research:
For AmiTCP there are supposedly two utilities on Aminet called
tnserv.lha and FtpDaemon.lha that provide remote telnet and FTP to
an Amiga. Don't know how well they work or if they will work with
 AS225r2 ..   You can consult the AmiTCP FAQ or stay tuned for
future releases of this FAQ. Or better yet, download them and see for
yourself ;-)

1.32   B02

When I FTP to some hosts, I get part of an introductory message and
then either the network hangs up or the connection gets closed. Why?

There apparently is a bug in the AS225 software that causes trouble
when ftp'ing to a system that has a long login message. You can
suppress this login message on some systems by typing a hyphen ('-')
as the first character in your password.

1.33   B03

Is Domain Name Resolution available with the AS225 software?

No. You must have an entry in the host table for each machine you
wish to reference by name (as opposed to IP address). And no, the
gateways file is not currently used.

1.34 B04

Can I use NFS to mount a partition on my Amiga from a remote
machine?

 No. Currently, the AS225 software only supports NFS as a client. An
NFS   server is not included.

1.35 B05

I can't use FTP, rsh or rcp into my Amiga. Why?

Make sure that you are running inet:s/start-inet with the servers
keyword   (i.e., "execute inet:s/start-inet servers").

1.36 B06

FTP into my Amiga works, but rsh and rcp into my Amiga don't.

 Make sure that you have an entry in inet:db/passwd for the user who
is   rshing into the Amiga (you can use the -l option to change the user
trying to do the remote access.) Make sure that you have an entry in
inet:db/hosts.equiv for the machine being rsh'd from.

1.37 B07

I can communicate with machines on my network/floor/building, but I
can't communicate with other machines even though they are in my
inet:db/hosts file.

Make sure that you have routes set up to other networks. Many
networks have one primary gateway which you should make your
default route for reaching all other networks. See the commented-out
"route add default" line in inet:s/start-inet.

1.38 Envoy (E)

Questions about Envoy

 E1   How do I configure a machine which has both an Amiga Link
  and an ethernet connection so that machines on either network
  can see each other?

 Answers to Envoy

1.39 Answers to Envoy

```
 E1
```

1.40 E1

How do I configure a machine which has both an Amiga Link and an
ethernet connection so that machines on either network can see each
other?

Given machines A, B, and C with node B having both Amiga Link and
Ethernet card (Quicknet) as shown below, and all running Envoy.


```
   A  <=== Alink ===>  B  <=== Ethernet ===>  C
```

In order for node A to access node C or vice versa use the following
configuration scheme: (IP addresses for example only!)

```
        node A     node B     node C
IP-Address:   244.1.a.a 244.1.b1.b1 244.1.c.c
         244.2.b2.b2
Subnet Mask:   255.255.0.0 255.255.0.0 255.255.0.0
         255.255.0.0
Use Realm:    yes      yes    yes
Realm-Server:  NO      yes    yes
Realm-Name:   NET    NET    NET
Server-Address   244.1.b1.b1 244.1.b1.b1 244.2.b2.b2
Default gateway: 244.1.b1.b1 ------    244.2.b2.b2
Local Realms:   ------    NET 244.1.0.0  -------
Local Realms:     NET 244.2.0.0
Remote Realms:    ------    ------    ------
```

where b1.b1, and a.a are the AmigaLink hardware addresses.
i.e. the last two bytes of the IP address MUST match the hardware
address on the AmigaLink interfaces.

On the ethernet interfaces, however, b2.b2 and c.c can be anything
since Envoy supports ARP on ethernet.

NOTE: the IP addresses are for example ONLY! Unless you manage
all the nodes concerned you must coordinate the IP addresses with
your network administrator or provider.

This example basically creates two TCP/IP domains: 244.1 and 244.2
Each domain can have multiple nodes. Node B serves as the gateway
between the two domains. If you were to set up additional gateways
to other domains, you would use the route command on each node
that you wished to enable communications to the new domain. The
route command merely tells TCP/IP which gateway or router to use for
data that is to be sent to a particular domain thus providing a more
direct path, and avoiding sending unnecessary traffic to other parts of
the network.

The gateway provides access to other parts of a network that would
not otherwise be directly accessible. A router is dedicated to keeping
track of routes to various domains. On large networks your default
gateway will often point to a router thus negating the need to maintain
route commands on each node.

For further discussion of domains and beginner info on the Internet you
should refer to ZEN

1.41   AMosaic (AM)

Questions about AMosaic

   AM1   What do I need to run AMosaic?
   AM2   Is there a way to print from AMosaic using arexx?
   AM3   Having problems with "service looping" with http?
   AM4   How do I connect to a news server with AMosaic?
   AM5   How do I access docs in AMosaic NoNet mode?
   AM6   How do I make AMosaic appear on a custom screen?

 Answers to AMosaic

1.42   Answers to AMosaic

 AM1
 AM2
 AM3
 AM4
 AM5
 AM6

1.43   AM1

What do I need to run AMosaic?

*A link to the Internet
*Any Amiga running AmigaDos 3.0 or higher.
 (Show your support for the Amiga... Buy 3.1!)

 Aminet is the place to go for all the rest of this stuff!

* Amosaic V1.2 (latest is available on max.physics.sunysb.edu)
* MUI 2.0 or higher
* AmiTCP 3.0b2 or DNET
* SLIP (included with AmiTCP) or PPP
* INetUtils (optional adds SMTP, etc.)
* FTPd (optional allows inbound FTP)

*The following utilities are used by default by Amosaic, but you can

```
use others:   amisox,  edplay,  zgif,  ams
They are available via Amosaic once you get it up and going.
```

AmiTCP can be a bear to install, but if you read ALL of the docs it
should go easier. Also they have real nice postscript docs available
via anonymous FTP. Read the AmiTCP FAQ for the location.

DNET may be more useful if you are connecting to a UNIX host, but I
have no direct experience with DNET. I'm still looking for someone to
contribute some info on DNET!   feedback

1.44   AM2

Is there a way to print from AMosaic using arexx?

Thanks to a Quick and Dirty Hack by Mike Meyer there is!

Although I tried to type it in correctly, I cannot guarantee that it will
work since I have no way to test it.

```
/ *
* A QAD hack to print from Mosaic via the Rexx interface
*/

arg style

if ~show('Libraries', 'rexxarplib.library') then
if ~addlib('rexxarplib.library', 0, -30) then do
say "No rexxarplib, so no posting!"
exit
end

options results
select
when style = "TEXT" then 'get text'
when style = "FORMATTED" then 'get formatted'
when style = "POSTSCRIPT" then do
call request 0, 0, "Postscript doesn't work yet!"
exit
end
otherwise call request 0, 0, "Invalid argument" style
end

if ~open(printer, "prt:", "Write")  then do
call request 0, 0, "Can't open printer!"
exit
end

call writech printer, result
exit
```

1.45 AM3

Having problems with "service looping" with http?

There is a version of the AmiTCP 3.0 Beta 2 inetd which is better
behaved. It is available via anonymous FTP at remarque.berkeley.edu
as   /pub/mwm/inetd_for_httpd

1.46 AM4

How do I connect to a news server with AMosaic?

You specify the NNTPSERVER environment variable. This can be
done at user-startup or from a shell. Use the setenv command.
SETENV NNTPSERVER a.news.server.youre.allowed.on

1.47 AM5

How do I access docs in AMosaic NoNet mode?

The Amosaic NoNet version can run in stand alone mode (i.e. NO
NETwork). This is for testing purposes before you get your network
connection. In v1.2 or earlier you are greeted with an error message
instead of a document in this NoNet mode.

To see the local html files you must use the Open Local menu item and
then choose volumes. You must go all the way to the list of volumes
because this allows you to build the file pointer from scratch.
Choose the volume where Amosaic is stored and then work your way
down to the docs/html directory. There should be a file called
index.html. Choose it and it should open. There is a way to make this
your default home page, but I'm not sure how. At any rate, you should
be able to access any of the LOCAL html files in this manner. Once
you open the index.html file it has hypertext links to many of the other
local html documents. It also has remote links which obviously won't
work in NoNet mode.

1.48 AM6

How do I make AMosaic appear on a custom screen?

You can make AMosaic appear on a custom screen by using the MUI
Prefs, BUT don't do it while Amosaic is running!!! If AMosaic is
running when you change the MUI prefs to a custom screen, it will
crash your machine. Simple fix: Run MUI prefs and change the
screen, and THEN run AMosaic.

As the good Doc says, "If it hurts when you do that, then don't do that."

1.49   AmiTCP (AT)

Questions about AmiTCP

    AT01   Telnet in 3.0b2 locks up my shell when I exit. Is this a bug?
    AT02   Startnet in 3.0b2 says there is "no such interface" why?
    AT03   My provider assigns SLIP addresses dynamically. Now What?

    Answers to AmiTCP

1.50   Answers to AmiTCP

  AT01
  AT02
  AT03

1.51   AT01

Telnet in 3.0b2 locks up my shell when I exit. Is this a bug?

Yes, and is quite typical of BETA software. Remember beta software is
still under construction and has not been extensively tested.
Bug reports and patches can be found on kampi.hut.fi

Amitcp 3.0b2 telnet when used with AmigaDOS 3.0 or 3.1 uncovered a
bug in the console software.

Solution is to either
A) use the telnet from 2.3 of AmiTCP or
B) use a console handler like KingCON which is available on Aminet
C) get a "fixed" version of telnet from kampi.hut.fi

1.52   AT02

Startnet in 3.0b2 says there is "no such interface" why?

Because you failed to read the NOTE to BETA testers. This is BETA
software so you ARE a Beta tester. BETA software is still under
construction and therefore so are the manuals and the install script.

There are some OUTSTANDING postscript manuals available for
AmiTCP 2.x   The 3.0 stuff hasn't been added to the postscript
manuals yet so the postscript docs aren't in the 3.0 archive, but they
are available online at kampi.hut.fi and other places.

To fix the "no such interface" problem you must edit two files:
amitcp:db/interfaces and amitcp:bin/startnet.

In amitcp:bin/startnet you must change the ifconfig commands
so that instead of file name/interface number

  devs:network/a2065.device/0

you have

  alias0

where alias is defined by you in the interfaces file.

Some predefined aliases are already in the interfaces file. In fact the
a2065.device is defined as ether. Therefore you could have changed
the above to ether0 in startnet and not had to change the interface file.

Also, you must change the lo/0 to lo0 in the startnet file because the
slash between the name and the unit number has been dropped and
will generate an error if you include it.

1.53   AT03

My provider assigns SLIP addresses dynamically. Now What?

Now you have an excuse to learn arexx or shell scripts. ;-)

Actually some have already been written and posted.
Here is one way to do it. (NOTE: I HAVE NO WAY TO TEST THIS
PROGRAM SO USE IT AT YOUR OWN RISK)
In fact, it WILL have to modified for your system.

```
/*REXX*/
/* go slip! a program to create slip scritps with dynamic address */
/* usage   rx goslip.rexx <dynamic ip address> */
option results
trace off
If = '0a'x
address REQUESTSTRING 'rtitle="GoSlip" text="Please enter your IP
address." '
direccion = result
/* changed from 19200 */
outdriver = 'baudbandit.device 0 57600 ' || direccion ' CD 7WIRE'

say outdriver
foo = open('outfile','ENV:sana2/rhslip0.config','Write')
foo = writeln('outfile',outdriver)
call close 'outfile'

address REQUESTSTRING 'rtitle="GoSlip" text="Please enter your
host name.(slip#, w/ out amiga.com)" '

trob = result
gene = 'HOST 128.200.142.228 ' || trob || lf || 'DOMAIN amiga.com' || lf
||'NAMESERVER 128.200.192.202' || lf ||
```

```
'NAMESERVER128.200.1.201'

foo = open('outfile','amitcp:db/netdb-myhost','Write')
foo = writeln('outfile',gene)
call close 'outfile'


address command

'run >NIL: AmiTCP:AmiTCP'
WaitForPort AMITCP
'AmiTCP:bin/ifconfig lo0 localhost'
'AmiTCP:bin/ifconfig slip0' direccion '128.200.1.201'
'AmiTCP:bin/route add' direccion 'localhost'
'AmiTCP:bin/route add default 128.200.1.201'

'Assign TCP: Exists > NIL:'
/* 'if warn' */
'Mount TCP: from AmiTCP:devs/inet-mountlist'
/* 'endif' */
'run >NIL: amitcp:bin/inetd'
```

1.54   General (C)

```
C01   What terminal emulations are available over ethernet?
C02   Can I use multiple protocol stacks on my Amiga at the
 same time?
C03  I only have two machines, an Amiga and _____.
         How can I exchange data without a net?
C04  How can I uudecode messages from binary newsgroups?


 Answers to General Questions
```

1.55   Answers to General Questions

```
 C01
 C02
 C03
```

```
C04
```

1.56   C01

What terminal emulations are available over ethernet?

The AS225 package allows rlogin using the Amiga console (a
termcap is   supplied) only. A separate rloginVT program is supplied for
VT100 emulation. Under X Windows, xterm provides terminal
emulation that typically works with all software available on the host.

TSSnet DECnet provides VT100 terminal emulation using the
DECnet CTERM facility or use your favorite VT compatible Amiga
terminal program including VLT.

 VLT works with TSSnet DECnet, Enlan, and with tn3270.device for
 AS225r2 .   VLT provides Tektronix and DEC terminal emulation.

1.57   C02

Can I use multiple protocol stacks on my Amiga at the same time?

If all desired protocol stacks support the SANA II standard, several
protocols can be run simultaneously on the same A2065 card. Some
commercially available versions of the network protocol stacks support
the SANA II specification now. But if they don't, you can have multiple
hardware   interfaces to run different protocols on the same machine
simultaneously (i.e. one A2065 used for TCP/IP and one used for
Netware).

1.58   C03

I only have two machines, an Amiga and _____.
How can I exchange data without a net?

Four solutions come to mind. From least to most expensive:

 1) Floppies

If the data will fit on a 720k floppy(or 1.4M floppy if you have the High
density drive) then you have it made. see below.

 2) NULL Modem cable

If the two machines are in the same room a null modem cable is useful
for moving larger amounts of data. You will need software in addition to
the cable. You can write your own or use something like TwinExpress
which is on Aminet . In addition to moving files TwinExpress will also
allow you to print remotely. For example, If you have a postscript
printer hooked to the PC's LPT2 port, then

```
copy hd0:psfiles/mydoc.ps ~LPT2
will send the postscript file over the nullmodem cable to the PC printer.
```

```
 3) External SCSI
```

```
The next cheapest solution is to get a SCSI external drive with
removable media such as a Syquest or Bernoulli.
```

```
 4) Ethernet
```

```
Of course there is nothing wrong with setting up an ethernet LAN
between just two machines other than cost.
```

```
PC clone to/from Amiga
-------------------------------
Floppies and removable media can be formatted in MSDOS format.
The Amiga can then read and write to them using CrossDos which is
included in AmigaDOS 2.x and higher.  CrossDos can also format a
MSDOS disk, but it takes a while.
```

```
Mac to/from Amiga
-------------------------
The Mac can also read and write MSDOS format floppies using the
Apple File Exchange utility which comes with the Mac operating
system.  AFE is not automatically installed so you may have to get off
the master diskettes if you cannot find it on your Mac.
AFE can also format a disk as MSDOS.  AFE MUST BE RUNNING
BEFORE you insert the MSDOS disk or it won't recognize it!!
```

1.59   C04

```
How can I uudecode messages from binary newsgroups?
```

```
MASSDECODE is an ARexx script by Gregg Giles which will scan all
newsgroups for uuencoded binaries, joins the parts of a single binary,
and decodes the binary.  Ideal for those who want to have binary
newsgroups decoded automatically and have the resulting binaries put
online for their users to download and/or access.
```

```
It is available from  Aminet  as comm/news/MassDecode1.1.lha
```

1.60   Generic (G)

```
 Help with basic terminology, not complete answers.
```

```
   G01   What is a network?
                   G01a   Hardware
                   G01b   Protocols
                   G01c    Applications
   G02   What is the Internet and Usenet?
```

```
    G03    How do I connect?
                    G03a    modem to modem
                    G03b    modem to commercial services
                    G03c    direct to WAN provider
    G04    What is a server?
    G05    What is an archive?
    G06    What is a mirror?
    G07    What are Gopher, WWW, and WAIS?
    G08    What are Mosaic and Cello?
    G09    What are Veronica and Archie?
    G10    What is news?
    G11    What is a Set top?

 answers for Generic (G)
```

1.61   answers for Generic (G)

```
    G01
    G02
    G03
    G04
    G05
    G06
    G07
    G08
    G09
    G10
    G11
```

1.62   G01

What is a network?

short answer: Interconnected computers.

A network is two or more computers that can interconnect in a peer to
peer or client to server fashion most often over a shared and often
virtual connection. This is in direct contrast to the old terminal to host
hard wired connection. A network can still support terminal to host
connections via terminal emulators or terminal servers, but provides
much greater flexibility in switching connections.

A network is accomplished using three basic components. Hardware,
protocols (software), and Applications (useful software ;-) Each of
these is actually comprised of several layers, but we won't worry with
the details. There are many books on the subject as well as technical
specs for the standards. But you will need some knowledge of the lingo
in order to configure your networking software correctly. Consulting
with your LAN administrator or WAN service provider is also highly
advisable for checking your network software configuration.

The concept of layers is very important to networking and computer

designs as well. Each layer "protects" the layer above from the layer
below so that one layer can change with minimum impact on the upper
layers. In some cases this protection is so good that an application
may not know that it is running on different hardware. The OSI
network model defines seven layers, but we are going to reduce it to
three broad categories.

a => hardware   b => protocols   c => applications

    G01a
    G01b
    G01c

1.63   G01a

   Hardware

At the heart of a network is a shared cable often called a Backbone.
In the simple case this is a PARnet cable to connect two Amigas via
the parallel port. Both machines share the cable.   A more complex
example is an ethernet cable which without special equipment can
be 1000ft in length or more with a hundred or so computers attached
all interconnecting at once. This is known as a LAN or Local Area
Network. A cheaper but far more limited LAN Backbone is Localtalk
which Apple unleashed upon the world.

bridges, routers, and gateways   Oh my!

To overcome the distance and node limitation of ethernet wiring you
need at least a bridge which basically acts as a repeater. A bridge can
also do a limited amount of filtering so that traffic between the LAN
segments is more efficient.

There are also distance limitations with bridges, so a more complex
piece of equipment is needed called a router. A router provides many
more tools for controlling the flow of information between segments,
and can even provide some level of security. Special security
configurations of routers are know as firewalls. For really long
distances leased lines or satellite links are used between the routers
thus forming a Wide Area Network or WAN. These links are usually
provided by common carriers or some WAN providers .

This all works great as long as the two machines are the same brand,
but since there is more than one vendor there is more than one
"language" called a protocol for communicating. A gateway must be
used to translate between the protocols. As an alternative to a
gateway, some routers are able to handle multiple protocols at the
same time. Thus a ROUTER is often referred to and used as your
DEFAULT GATEWAY. Gateways are also used most heavily for
converting between electronic mail formats. Gateways are also used
to go between two different physical media such as ethernet and
Localtalk or ethernet and SLIP. See the Envoy specific question
section for an example.

The gateway provides access to other parts of a network that would

not otherwise be directly accessible. A router is dedicated to keeping
track of routes through gateways and other routers to various domains.
On large networks your default gateway will often point to a router.

The distinction between gateways, routers, and bridges is not absolute
since many of the functions of each can be included in a single
product.   In fact some companies call their product a brouter because
it performs both as a bridge and a router.

Another device that is used on large networks is called a
__NAMESERVER__.   A nameserver maintains a database of machine
names and their numeric addresses. Computers use numbers, but
humans use names. The nameserver allows the computer to look up
the numeric address when you use a name.   In addition to the
nameserver you can maintain a HOSTS file locally which is used first
by your computer when trying to translate a name into a number.

 ethernet cable

1.64   ethernet cable

While looking through the What's New page of Mosaic, I stumbled
across the Ethernet Web Page. It references an ethernet FAQ from the
comp.dcom.lans.ethernet news group. So if you don't find your answer
in this crude introduction then try their FAQ.

the URL for the web page is:
http://wwwhost.ots.utexas.edu/ethernet/ethernet-home.html

the gopher URL for the FAQ is:
gopher://mojo.ots.utexas.edu/11/netinfo/ethernet/ethernet-faq

An ethernet cable comes in several flavors. The maximum length of
your LAN segment is determined by which flavor you choose or
which flavors you intermix.   There is twisted pair, thin coax and thick
coax ethernet cables. Each of these are rated at 10Mbit per second.

Note that this is the TOTAL capacity (bandwidth) of the cable NOT the
speed between any two nodes. The speed between nodes is
determined by how many nodes are trying to communicate at any
given time. Even with only two nodes communicating you will NOT get
the entire bandwidth of the cable. The maximum is usually only around
 3Mbit per second.

The thick coax was the first used. It ran as a backbone through
a building with taps and drop cables for each node (computer).

Thin coax came into favor because of lower cost and ease of
installation.   Thus thin coax is often called cheaper net. It has a shorter
overall maximum length than thick.   It is routed in a daisy chain style
using tee connectors at each node.   There are adapters to go between
thick and thin, but your overall length can be reduced to that of thin.
There are devices called hubs which may not reduce the limit and can

provide conversion between one cable type to another.

Twisted pair is the current rage because it can be used for other things
as well, such as voice. You can wire an entire building with twisted pair
and decide at the wiring closet what service will be provided. Ethernet
over twisted pair is called 10BaseT and is most often configured as a
star with an ethernet concentrator at the center usually in a wiring
closet. The concentrator allows for the longer length required for a star
configuration. Using a concentrator provides the LAN administrator a
lot of other benefits and options such as diagnostic tools and functions
for monitoring the health of the LAN segment.

Several grades of twisted pair wire exist. The best class can also carry
FDDI which is a fairly new high speed token-ring style network
architecture. FDDI can handle speeds of 100Mbit per second.
FDDI is usually carried over fiber optic cable for long distances.
There are also Gigabit per second network architectures for short
distance applications such as a cluster of compute servers. As far as I
know there are NO FDDI or faster adapters for the Amiga at this time.

So the same wire can carry either FDDI or Ethernet so how do they
differ? Good question. It is obviously NOT just the wire. Ethernet and
FDDI are also specifications for how the electrical signals will be
transmitted and interpreted over the wire. The Ethernet spec was
originally developed by Xerox and DEC, and is now defined by the
IEEE standards committee. IEEE 802.3 is one of the main ethernet
standards in use.

One reason FDDI came into being is that ethernet performance
degrades rapidly as you approach the capacity of the bandwidth. This
means you are limited in the number of nodes that a LAN segment
can support. Depending on the activity level of the nodes you may be
able to support as many as 100 nodes on a LAN segment. Beyond
that and you should consider subdividing into multiple LAN segments
with bridges and routers.

1.65   G01b

  Protocols

A protocol is software that is required to use the physical connection. It
is responsible for establishing the connection and sending and
receiving the data in packets. Modem software is a crude example.

The software is called a protocol because there must be cooperating
software on each end, but they don't have to written by the same
vendor. Instead a "protocol" for the proper exchange of data is
defined and released as a standard (such as TCP-IP) or licensed as
proprietary (such as   DECnet). As long as the vendor on each end
adheres to the protocol a connection can be sustained which will
support an application.

TCP/IP is in the broadest use for several reasons, but mostly because
vendors could get and use the standard for basically free. DECnet
was very popular because of its robustness and the quality of the VAX

systems. The low cost, graphics power, and lure of a standard
operating system drew users to UNIX systems which used TCP/IP
because of the cost and availability. This has resulted in DECnet falling
way behind in numbers. A distant third is Appletalk or Ethertalk as it is
called when it is run over Ethernet. This protocol is best used for
LAN's, and it also suffers from being proprietary.

 Due to the constant growing of the size of the wide area networks
(WAN), a more robust protocol is required which will support a large
number of addresses which is the numeric value assigned to each
computer on a network. Two approaches are being worked currently.
One is to revamp and extend TCP/IP while maintaining backwards
compatibility. The other is an international standards effort called OSI
Open Systems Interconnect. OSI is moving very slowly which is
making it difficult to gain vendor support. TCP/IP will almost certainly
be enhanced regardless if OSI is successful or not.

In addition to these major protocols there are numerous other
proprietary protocols such as SNA by IBM or IPX by Novell. Some fill
special niche requirements, and some of them don't scale well to the
WAN environment. Some are so proprietary they will not run on but a
single vendor's hardware.

The latest wrinkle in the protocol world are SLIP and PPP which
allow the TCP/IP protocol to be used over a modem connection.
Typically a remote machine such as a laptop is hooked by modem to a
new generation of terminal servers which can convert between SLIP or
PPP and regular TCP/IP. The terminal server is connected to the LAN
and therefore the remote user has full (although slower) TCP/IP
access to the LAN.

DECnet can also be configured to use a serial connection.

 TCP-IP
  DECnet
 SLIP
 PPP
 SANA II
 UUCP

1.66   TCP-IP

TCP-IP is a protocol that has been released as a standard which
means that vendors can implement it independently and freely and yet
it still works. The standard is defined and described in RFC
documents which are available electronically. It has been
implemented by a large number of different vendors and therefore is
popular on the Internet. For more information on the Internet and
TCP-IP concepts see ZEN

TCP/IP as the name implies is more than one layer. The IP layer takes
care of the lowest layers of the protocol and is responsible for talking
to the device drivers (data link layers).   The TCP is one of two
"transport" layer protocols which handles the packetizing of the data.
TCP is a reliable service because it insures that the packets are put

back into the right order and that they are all received. If you send
packets "a", "b", "c", then TCP will make sure they are received as
"abc" and not "bca".

UDP is the other transport protocol and it is unreliable, but has less
overhead. The applications ride on these lower protocol layers. There
are a number of applications defined in the TCP/IP standards, but
vendors are only required to supply the lower layers. See the
applications section for a partial list of TCP/IP applications.
For instructions on using the FTP application see the FTP FAQ

 AS225 and AmiTCP are Amiga implementations of TCP/IP.

1.67   DECnet

DECnet is a proprietary standard belonging to DEC which is also made
up layers in a similar manner to TCP/IP. They break up the job quite a
bit differently. For instance with DECnet there is no need for a
separate NFS application. You can see a remote nodes disk drives by
simply including the DECnet node name in the directory command.
DECnet has two ways of handling terminal traffic. For the WAN you
use the SET host function of DECnet, but it is more efficient for local
traffic to use the LAT protocol. The older model DEC terminal servers
only supported LAT or asynchronous DECnet. Newer models also
support SLIP and PPP (check the manuals) since DEC now makes
computers that use TCP/IP as well.

TSSnet DECnet is an Amiga implementation of DECnet.

1.68   SLIP

SLIP Serial Line Internet Protocol   See RFC 1055 for details.
CSLIP adds a compression technique. See RFC 1144.

SLIP allows your computer to run TCP/IP over the serial port.
This allows your computer to have a TCP/IP address. TCP/IP
applications such as FTP can now use TCP/IP to deliver packets
directly to your address. An analogy would be instead of having to go
to the post office to get your mail, you now have a mailbox to which the
postman can deliver your mail. In more technical terms you are no
longer a terminal; you have become a node.

SLIP is a "data link" protocol. It sits between the serial port and the IP
stack. It pretty much takes the packets from IP, adds a wrapper to
them, and sends them out the serial port. It also takes packets from the
serial port, unwraps them, and passes them up to IP. SLIP has
several problems, including the fact that it is designed entirely for
TCP-IP, and is therefore of limited use for other protocols. Too many
people ask for "SLIP" when they really want "TCP/IP" with a SLIP
driver. You have to have both. Just like a terminal program is of little
use without a serial.device driver.

```
SLIP is not a full protocol it fits in one of the layers between hardware
and the protocol. It acts more like a device driver.

application (AMosaic, telnet, ftp, etc.)
--------------
protocol (TCP/IP)
--------------
SLIP or PPP
--------------
hardware (serial port)
```

1.69 PPP

```
PPP  Point to Point Protocol

For more info see:
 RFC  1332, 1333, 1334, 1376, 1377, 1548, 1549,1552, and 1570.

PPP allows your computer to run TCP/IP over the serial port.
This allows your computer to have a TCP/IP address. TCP/IP
applications such as FTP can now use TCP/IP to deliver packets
directly to your address. An analogy would be instead of having to go
to the post office to get your mail, you now have a mailbox to which the
postman can deliver your mail.  In more technical terms you are no
longer a terminal; you have become a node.

PPP is the committee-designed protocol which is supposed to be a
sort of "universal" SLIP.  It is intended to replace SLIP, while providing
for all sorts of conditions, including the ability of use over non TCP/IP
protocols.  The two state machines in PPP are a real pain to
implement.  UNIX folks love it because a PPP implementation exists,
and they pretty much type "MAKE" and it works.

PPP's good points:
- PPP users checksums (FCS) SLIP does not
- PPP allows more than one protocol at a time, SLIP does not
- PPP automatically negotiates IP addresses, SLIP does not
- PPP can be used on non-transparent lines (e.g. when XON/XOFF is
used by the modems), SLIP cannot

Several Amiga versions of PPP are in the works.
A shareware version has been released on  Aminet

PPP is not a full protocol it fits in one of the layers between hardware
and the protocol.  It acts more like a device driver.

application (AMosaic, telnet, ftp, etc.)
--------------
protocol (TCP/IP)
--------------
PPP  or  SLIP
--------------
hardware (serial port)
```

1.70   SANA II

SANA was an experimental DATA-link and API paper written by Dale
Luck for a DevCon several years ago. Dale suggested two schemes
for creating standard interfaces for the data-link layer and protocol
stack APIs. After Dale left Commodore, the work passed to several
other people-- and the "API" part was removed. After it had touched
several people's hands, SANA-II was put together.

SANA-II is nothing more than a standard for writing device drivers.
Having something which is SANA-II doesn't help you do networking
unless you have a real protocol stack communicating through it. FAR
too many people have seen "SANA-II", and "Amiga networking
standard", and assumed too much. It is just a device driver standard
whose purpose is to prevent networking packages from hard coding to
specific hardware. This is similar to the reason for packet drivers in the
PC clone arena. A side benefit to SANA-II is that it allows multiple
protocols to share the same ethernet card.

1.71   UUCP

UUCP (UNIX to UNIX CoPy) is an old protocol used for transferring
files between UNIX boxes. UUCP is not interactive like a terminal
program, but more of a batch process. You give a list of commands
ahead of time and then at the specified time it calls another machine,
executes the commands which usually sends some files and receives
what the other machine has for it, and then hangs up. A store and
forward methodology as opposed to a dynamic constantly available
method.

1.72   G01c

 Applications

The applications are the part of the network that a user is most likely to
see, but are useless without the hardware and protocols. Applications
allow a user to emulate a terminal, copy files, send electronic mail,
browse and search databases, and use applications remotely.

```
TCP/IP applications:
"""""""""""""""""""""""""""
telnet ----- terminal access
FTP ------- file transfer protocol ( copy files)
SMTP ----- Simple Mail Transfer Protocol (email) or
                 Send Mail To People as my friend calls it.
NFS ------ Network File System (remote mount disks)
                 PARnet provides a similar service on a much smaller scale.
```

```
NSLookup --  find address corresponding to a host name
Finger --- See who is logged in
                 or access an X500 email database
Xwindows-- Use graphics programs on a remote system
NEWS ---- A BBS style messaging system global in scale  NEWS FAQ
NNTP ---- A protocol that supports NEWS
RN ------ One of many NEWS readers
Sockets and ports -- Hooks for programmers to allow communication
between applications on different computers.
```

```
DECnet applications:
"""""""""""""""""""""""""""""""
Set Host --- Terminal Access host to host
LAT --------- terminal access  terminal to host
Copy -------- copy files between DEC hosts
                    (emulated on non-DEC hosts)
VMSmail --- electronic mail (must have gateway to
    reach non-DEC systems
Dir ---------- Can be used to read remote disks
DECWindows ------  Same as Xwindows
task to task ----------  Hooks which allow user or vendor written
 applications to communicate between computers

Ethertalk (Appletalk) applications:
""""""""""""""""""""""""""""""""""""""""""""""""""
Appleshare -----  Allows remote disk access (file copying)
Chooser ---------  Supports network printing and other services
including Appleshare
```

```
Electronic mail and terminal emulation for Ethertalk must be bought
from a third party, and may require TCP/IP or DECnet drivers as well.
```

1.73   G02

What is the Internet and Usenet?

Two examples of WAN's which use entirely different techniques, but
whose services are overlapping. There are interconnections and
usenet traffic can and does travel across the internet, but for the most
part they are separate networks. Also the Internet is actually many
networks which are interconnected on a world wide scale.

 Usenet utilizes the phone system and temporary links to move
information between systems. It uses a system of store and forward. It
stores up outgoing messages. Then on a periodic basis makes a
connection to a specific computer and forwards the messages, and
downloads any incoming messages then breaks the connection. A
popular usenet protocol is UUCP and the most popular application
is NEWS which is also now on the Internet.

 The Internet on the other hand is mostly a shared backbone which is
always available between the primary systems. The usenet does not

use dynamic routers. An Internet router is always on and always
connected to other routers. An internet router immediately determines
an incoming message's next destination and immediately sends it on
its way. A usenet "router" waits until the next scheduled connection
time before sending the message on its way. The most common
protocol on the Internet is TCP-IP and one of the most popular
applications is Mosaic which relies heavily on FTP and Gopher.

1.74   G03

  How do I connect?

There are three basic ways with more to come hopefully.

a) modem to modem
b) modem to commercial service
c) direct to WAN provider

Or if the company where you work has a network, you should contact
your local network administrator about the procedures for getting
network access at your company.

    G03a
    G03b
    G03c

1.75   G03a

  modem to modem

This is basically the poor man's network, but it works well. Usenet
uses this method. Since there is some overlap between usenet and the
internet you can gain some access to the internet such as mail or
news.

To get on the Usenet you have to either know someone who is already
on it and daisy chain from them. Or you can access a BBS which offers
usenet access. User groups and BBS are also good places to ask for
usenet access. Also you can check the UUCP FAQ for information.

Of course if you are lucky enough to have an account and modem
connection to a machine on the internet you can access most things as
terminal and use FTP to move files to your dial up host. You will need
a file transfer program to transfer from your dial up host to your
machine.

Two recent protocols have evolved called SLIP and PPP which
make the intermediate system transparent and provide full TCP/IP
connectivity over a modem. In fact the intermediate system need be
nothing more than a terminal server which supports SLIP or PPP.
Both SLIP and PPP allow your computer to have an address so that
TCP/IP applications can talk directly to your node. (i.e. your machine

becomes a node, not a terminal) PPP can support other protocols
than TCP/IP.

Some universities and some public access programs such as FREEnet
offer free dial up accounts. If you can't find one of these or USEnet
access, then you will need to try
option B modem to commercial services, or
option C direct to WAN provider.

1.76   G03b

 modem to commercial services

Several commercial services such as Portal, BIX, and Compuserve
now provide internet access to varying degrees as part of their service.
and in essence have become WAN providers .

If you have internet access this makes these services far more
accessible. If you don't have internet access, they make _some_ of
the internet services available to you.

As mentioned before file transfer is a two step process. However,
more and more commercial services are providing SLIP and PPP
connections which eliminate the two step process by giving your
remote host its own internet address. They also provide full internet
access, but some applications require more speed than an analog
modem can provide.

1.77   G03c

direct to WAN provider

The WAN providers offer many kinds of connectivity from a normal
dial up BBS to a full blown high speed WAN connection.

 Full Blown WAN
 Cheaper WAN
 WAN shopping
 WAN providers

1.78   Full Blown WAN

The full blown WAN connection is the FASTEST, most flexible and the
most expensive.   This type of connection is most useful for a group
such as a business with a LAN, since this type of connection provides
a router at your site. Generally connection speeds start at 56 Kbit/sec
and go up.

A full blown WAN connection also requires a great deal of expertise to

manage. You must learn security, configuration, and troubleshooting
techniques. Some WAN providers will provide these services for
additional fees.

The setup of a WAN connection is WELL beyond the scope of an FAQ,
but there are numerous courses and books available if you wish to do
the job yourself. Also the documentation that comes with the software
and hardware is mandatory reading.

1.79   Cheaper WAN

Cheaper WAN: You basically pay for access to a modem, termserver
port, and use of the router at the providers site. They take care of most
of the management headaches.

Over this connection they provide SLIP and PPP which require
some networking knowledge on the user's part but not as much as
managing a LAN. SLIP and PPP offer a full set of internet services,
but at a lower speed. Generally you are limited to what speeds the
local telco can provide. The fastest is currently ISDN, but that can be
expensive and has limited availability. So most will also offer standard
analog modem connections.

1.80   WAN shopping

Shopping for the right level of WAN connectivity can be difficult.

SLIP and PPP may offer a more cost effective method of accessing
commercial services than a standard dial up service while also
providing access to archive and WWW servers. You have to run the
cost comparisons yourself to see. O'Reilly & Associates, Inc publishes
a good book that offers some good ideas for doing cost comparisons. It
is called "Connecting To The INTERNET" an O'Reilly Buyer's Guide.
I'm sure there are other books as well.
Time to head to the bookstore ;-)

1.81   WAN providers

To get a fairly current list of WAN providers you can check your local
bookstore. Most books on the Internet contain lists of WAN providers.

To get a more current list you can use electronic mail to get a copy of
Peter Kaminski's PDIAL list.   Send a message with "Send PDIAL" as
the subject line. Send the message to info-deli-server@netcom.com
Or you can subscribe by using "Subscribe PDIAL" as the subject line.
You will then automatically get any updates to the list.

PDIAL is also available from the news.answers FAQ archive .

1.82   G04

 What is a server?

A server is a computer which acts like a library for files, and programs.
It can also be set up to allow users to change the information as well.
Several programs and protocols exist for creating a server:
Appleshare, NFS, Xwindows, FTP, news, gopher, WWW, DCE, SQL,
and user written applications.

Appleshare and NFS make remote disks seem like local disks. Thus
allowing a group of users to share disk space and information if so
desired.

Xwindows is a device independent network terminal package which
supports a graphical user interface. It can be thought of as an display
server. The application can be run on one machine and the display
served to any Xwindow device on the network. If Excel had a X
window version it could be run on a Mac or PC and the display could
be on any Xwindow device anywhere on the network. It could even be
displayed on an Amiga using X11R4 .

FTP server software allows you offer a portion or all of your disk drive
for remote access. Unlike Appleshare or X windows you cannot run
applications remotely. FTP stands for File Transfer Protocol and file
transfer is all that it does. It does provide a binary mode of transfer so
that you can copy applications to your local hard drive or ram and then
run them.

News, gopher, and WWW are special servers for information which
require a client software package to access. They can be thought of
as network databases. These are explained in other sections.   G07

SQL is standard query language and DCE is distributed computing
environment. SQL and DCE can be used in vendor or user written
applications to create or access multiple database servers. This allows
the programmer to distribute the load across several machines. Also it
allows for more seamless integration of data from several non-similar
computer systems in a transparent manner to the user. For example,
very few executives want to FTP to three or four machines to pull
together the information for review. They tend to like to click on a
weekly report button and have the program do all the work.
Since SQL and DCE are standards the weekly report program is
somewhat shielded from hardware specifics or changes.

1.83   G05

What is an archive?

A computer site which advertises and stores a large amount of public
domain and share ware software and documentation.

1.84   G06

What is a mirror?

Some archives are heavily used and therefore must be supported by
multiple sites which are often located very far apart. Each site should
ideally have identical information available therefore they are mirrors of
each other. When one site gets a new file it must be mirrored to the
other sites usually using FTP.

1.85   G07

What are Gopher, WWW, and WAIS?

Three kinds of network information servers. Each more powerful than
the next, but with some interconnectivity. Each server requires a client
application to allow the user to access the information. For Example, a
Mosaic client can access all three servers. The main purpose of these
client/servers is to help a user navigate the Internet to find information
and files.

Gopher is a menu utility which simply uses FTP for retrieving files from
archive sites.   Gopher also uses a search utility called Veronica for
aiding users in finding files in the gopher archive sites. Veronica can
do keyword searches whereas Archie can only search for file names.

WAIS is Wide Area Information Server which provides information
lookup services to libraries and databases on the Internet. A simple
WAIS client allows the user to select databases to search from a list.
The user then provides keywords to search for, and the WAIS client
allows the user to view any matches found. This is cumbersome once
the list of databases grows into the thousands. Screenfull after
screenfull of database names scroll by.

As of March 16, 1994 future versions of WAIS server & client library
will be known as ZDist NOT freeWAIS. freeWAIS is based on the
older version of the search and retrieval protocol Z39.50-1988. The
newest version of that protocol Z39.50-1992 is NOT backwards
compatible.

Since both versions will be around for awhile, a name change for the
server/client software libraries had to be established. Both freeWAIS
and ZDist are maintained by CNIDR. Kevin Gamiel is the contact.

It should be noted that the Z39.50 protocol is a standard which is NOT
published or maintained by CNIDR, but is publicly available.
Z39.50-1992 is the protocol of choice for many other network based
information search and retrieval applications besides WAIS.

Much more info is available thru Mosaic by searching on CNIDR,
WAIS, or Z39.

WWW is world wide web and uses http and html to make its hypertext
and multimedia services available to mosaic and Amosaic clients over

the Internet. WAIS support is being added to Mosaic. Mosaic offers
WAIS an effective interface and WAIS offers Mosaic an effective
search engine.

All three of these servers use the TCP/IP protocol, and all have both
public domain and commercial versions of the clients.

1.86   G08

 What are Mosaic and Cello?

Hypertext based multimedia interfaces for browsing the Internet.
Mosaic is developed by NCSA for Xwindows, Macs, and Windows.
Cello is developed for Windows. Anybody know more? FeedBack
 Amosaic is developed by public domain effort for the Amiga.

They are primarily used to access the 1200 plus World Wide Web
(WWW) servers, but can also be used to access WAIS, Gopher, and
others. They enable the user to click on hypertext links which will
automatically use the network services such as FTP to retrieve the
information pointed to by the link regardless if it is text, sound, or
graphics. They utilize shareware and public domain viewers and
players of the users choice to play the sounds or to display the pictures
or animations.

1.87   G09

What are Veronica and Archie?

Archie is the older of the two search tools. A user submits a query to
Archie or Veronica and they search their database for the location of
files or programs. Veronica is associated with the Gopher servers.

Both require TCP/IP at some point. Although both can be queried by
electronic mail.

There is an Archie client available for AmiTCP via anonymous FTP
from ftp.demon.co.uk in the /pub/amiga/amitcp directory.

1.88   G10

What is news?

NEWS is a global BBS run by everyone and no one.
I will describe it briefly here, but see the NEWS FAQ for details.

NEWS is made up of broad topics called news groups, to which
people can post or respond to posts. Anyone can create a new post,
but new news groups are added based on an email voting system. A

few groups are moderated, but most are not.   NEWS is available via
usenet, the internet, and some commercial services. Almost NOBODY
carries ALL the news groups. User access is through a news reader
application that accesses a news server. There are many variations of
news readers. Several for the Amiga can be found on Aminet and
 Fred Fish . GRn is one. Arn by Mike Schwarz and Mike Smith is
another.

NEWS began life on a college campus and then became the USENET
news as it spread to other college campuses and beyond via UUCP .
Today it is also carried across the Internet using the NNTP application
over TCP/IP. The links between servers are set up manually by news
server administrators and the links are called news feeds. A lot of the
feeds come and go, since they are done on an informal basis.

GRn in combination with INetUtils allows you to access news over
either NNTP or UUCP.

1.89   G11

 What is a Set top?

A twinkle in some entrepreneur's eye.
It will most likely occupy the __TOP__ of your television __SET__.
Some call it Interactive TV. Some call it info-pliances.
It could possibly bring the internet to your home via cable TV or phone
lines, but more than likely it will only bring limited expensive services.

AT&T says, "YOU WILL."   I say, "I AIN'T YET."

A recent newspaper article listed the following companies as
competition for IBM in the set top market: General Instrument,
Scientific Atlanta, 3DO, and Nintendo.   NO mention of HP, Sony,
SEGA, or Commodore. Hmmmmmmm.

1.90   Software Specs

Specifications for Amiga Networking Software
 AmigaELM
 AmigaNOS Flavors
 AmiTCP
 AmigaUUCP
 Amosaic
 AS225
 DECnet
 ENLAN-DFS
 Envoy
 GRn
 INetUtils
 TorqueWare (TM)

```
VLT
X11R4
```

1.91 AmigaELM

AmigaELM is available on AmiNET   and is an electronic mail utility for
 UUCP that allows you to read and post mail through a remote unix
mail box.

AmigaELM 3.0 was just announced. It is shareware.
 Don't know much else about it at this time.   FEEDBACK

You should also pick up a copy of INetUtils from Aminet . It has a
SMTP client which is suppose to work with AmigaELM. SMTP is the
Simple Mail Transfer Protocol or the Send Mail To People protocol as
my friend calls it.   SMTP is a defined standard for email over the
TCP/IP protocol and therefore is widely used on the Internet.
This SMTP client is not suppose to require a remote mailbox.

1.92 AmigaNOS Flavors

AmigaNOS and AmigaNOSGW are Amiga ports of the PD TCP/IP
package for MS-DOS called "ka9q". Note that there are MANY
versions of "ka9q" which tends to make them somewhat unstable,
since they have so many variations.

AmigaNOS is a program that will allow one to participate in the Internet
(or any TCP/ IP network for that matter) via one of two dial-up TCP/IP
protocols: SLIP or PPP. It also works with HAM radio equipment.

Both programs are a single, integrated "package" of the required
TCP/IP protocols (e.g.; TCP, IP, UDP, etc.) and some TCP/IP
applications/commands (e.g.; Finger, Telnet, Ping, SMTP). Though the
required file structure may seem daunting at first, it is actually simpler
to set up than is AmiTCP.

Both AmigaNOS and AmigaNOSGW are very close in capability and
can be considered equal, in general, for TCP/IP.   The main
differences between the two versions is that Graham Walter's version,
AmigaNOSGW, comes with an external Gopher client program and
has an ARexx port.

The following data, from the Feb. '94 AmigaWorld article "Net Gains" ,
by Jim Dutton, provides a brief listing of the major functions of the two
Amiga TCP/IP packages.

AmigaNOS (V2.9p)
- John Heaton
- Public Domain (available from 130.88.200.4 via anonymous FTP)
- requirements: modem
- provides full TCP/IP "protocol stack/suite" plus applications

```
  * FTP, TELNET (ANSI: pseudo DEC VT100), Rlogin
  * SMTP (client & server)/DIGGER, POP2 (client)
  * TCP/IP/UDP, NNTP,  RIP/RSPF/ARP, SLIP/PPP
  * FINGER, Mailbox/Chatnode
  * TTYlink,  ECHO/DISCARD/PING, HOPCHECK, Route, Message
- amenities: mem,shell,pwd,cd,dir,help files via Less,internal
multitasking,  extensive and easy to invoke statistics
- drawbacks: no SANA-II support; opens serial.device in Exclusive
mode
```

```
AmigaNOSGW (V6)
- Graham Walter
- Public Domain (get it by anonymous FTP from newgate.demon.co.uk)
- requirements: modem
- provides full TCP/IP "protocol stack/suite" plus application hooks
  * FTP, TELNET (ANSI: pseudo DEC VT100), Rlogin
  * SMTP (client & server)/DIGGER, POP2 (client)
  * TCP/IP/UDP, NNTP,  RIP/RSPF/ARP, SLIP/PPP
  * FINGER, Mailbox/Chatnode
  * TTYlink,  ECHO/DISCARD/PING, HOPCHECK, Route, Message
 - amenities:  internal multitasking, external clients, ARexx port,
   Gopher client (requires AmigaGuide) which can also do some WWW
- drawbacks: no SANA-II support; opens serial.device in Exclusive
mode
```

```
Gopher (V1.7)
- Graham Walter
- Public Domain (get it by anonymous FTP from newgate.demon.co.uk)
- requirements: AmigaNOSGW (V6), AmigaGuide
- provides a GUI based/hypertext Internet Gopher client
  * request Gopher servers for files and/or services that they have
  * supports some World Wide Web files (eg; HTTP)
```

1.93   AmiTCP

```
AmiTCP is a GNU-ware  version of TCP/IP for the Amiga.
It will work with SLIP or ethernet cards.
For more details see the  AmiTCP FAQ
AmiTCP is available on  Aminet  .

AmiTCP can be a bear to install, but if you read ALL of the docs it
should go easier.  Also they have real nice postscript docs available
via anonymous FTP. Read the AmiTCP FAQ for the location.
```

1.94   AmigaUUCP

```
AmigaUUCP is a port of Unix to Unix CoPy  UUCP  to the Amiga.
It allows an Amiga to participate in the USEnet network.
```

It has it's own UUCP FAQ

1.95   Amosaic

Amosaic is a public domain version for the Amiga of NCSA's Mosaic.
A hypertext based multimedia interface for accessing the Internet.
Amosaic is available via FTP from max.physics.sunysb.edu or
via Mosaic from the Amiga home page by Witbrock.
Amosaic is also available on Aminet in the /comm/net directory.

It requires MUI,   AmiTCP or AS225r2   TCP-IP software, and some
sort of internet connection to access remote information. Also due to
datatypes it currently requires AmigaDos 3.0

See the product specific section AMosaic (AM) for more hints!

AMosaic allows you to browse and retrieve files using a point and click
interface. With a single mouse click you can retrieve and view a text
file, a picture, or an MPEG movie. Or you can download the most
recent version of your favorite program from one of the archive sites.
Use one of the many search utilities, and ride the wave of pointers to
sites all around the globe! They don't call the World Wide Web (WWW)
for nothing ;-)

1.96   AS225

AS225 by   Commodore Business Machines

Compatibility: NFS - TCP/IP software for the Amiga is compatible with
all models of the Amiga. Allows connection to Internet, DDN and
other networks supporting TCP/IP and UDP/IP protocols.
Works with the A2065 and Ameristar Ethernet Adapters.
Network Functions: rlogin (client only), rloginVT (client only VT100
terminal emulation), rsh (client and server, but no interactive shells),
NFS client, telnet (client only), ftp (client and server), finger (client
only), ping, arp, netstat, rcp (client and server), route, showmount

 AS225r2

1.97   AS225r2

AS225r2   release 2 of AS225 TCP/IP protocol

It is under active development again by third parties.
Stay tuned for more details as they become available.

1.98   DECnet

TSSnet DECnet
by Thunder Ridge, Inc.

Now your Amiga can become a Phase IV end node in a DECnet
network! Communicates over the Amiga serial port as well as
Ethernet. Fully SANA II compliant so other protocols which support
SANA II such as TCP/IP can run concurrently on the same ethernet
card.   Both Ethernet and serial connections provide multiple
concurrent Virtual Terminal sessions on any other nodes on the
network, using the DECnet CTERM facility. VT100 terminal emulation
is provided, or use your favorite VT compatible Amiga terminal
program such as VLT .

Supports X windows, allowing you to run VAX DECWindows
applications, as well as X clients running on other Amigas or any node
supporting X over DECnet.

NCP, Network Control Program lets you intuitively control all aspects
of your node's connection including line speed, buffers, statistics, and
security.

NetMail allows full mail access to DECnet networks.

NFT, Network File Copy enables you to copy, list, print, rename,
delete, type and submit command files across the network.

Task to Task Communications provides an AmigaDOS device for
communicating with tasks on other DECnet nodes. Full documentation
is included for this easy-to-use programmer's interface to TSSnet.

FAL, File Access Listener allows other DECnet nodes to access your
Amiga directly. Full username/password protection is available.

1.99   ENLAN-DFS

ENLAN-DFS by Interworks

Amiga peer to peer networking software
 and DFS (Distributed File System)

Description:

The Distributed File System (DFS) allows complete sharing of devices,
directories, and peripherals (including printers). With this setup
centralized backup is a possibility. Network resources appear on the
client as local devices. ENLAN-DFS supports the Workbench interface,
icons and all and is SANA II compatible.

Security features:
Provides password and read only support for public resources.
Provides node level username and password if desired.

```
Requirements:
AmigaDOS 2.04 or higher. Approximately 456KB of disk space.
compatible with   A600, 1200, 2000, 3000, or 4000
compatible with the following ethernet cards:
   ICard ,  Lan Rover ,  A2065 ,  A4066 , or  Hydra
Requires 1.5 MB of ram minimum, more for serving multiple systems

MSRP  for 5 node license  $349
```

1.100   Envoy

```
Amiga Envoy Available from IAM
Amiga peer to peer networking

 Envoy Description
 Envoy REQUIREMENTS
 Envoy COMPATIBILITY
 Envoy AVAILABILITY
 IAM Developers Info
```

1.101   Envoy Description

```
Amiga Envoy is the Amiga peer-to-peer networking software
developed by Commodore's Amiga Networking Group. Included
applications enable connected Amiga computers to share hard disks,
CD-ROMs, and printers transparently.   Amiga Envoy also provides a
simple messaging interface (API) for the easy development of reliable
network applications.

To make Amiga Envoy available to end-users immediately, Intangible
Assets Manufacturing has licensed Amiga Envoy from Commodore.
IAM has produced a manual written by Dale Larson, one of Amiga
Envoy's original designers. The manual eases you through the set up
and use of a simple network. Additional documentation will be
available (at an additional charge). It will explain how to internetwork
with Amiga Envoy, how to develop software for it and how to use its
security features.

Technical support is provided through electronic and physical mail and
by answering questions in such public forums as UseNet's
comp.sys.amiga.datacomm, on CompuServe, and on Bix.
Send email to info@iam.com
```

1.102   Envoy REQUIREMENTS

```
Envoy requires:

Workbench 2.04, Kickstart 2.04, 512k RAM, SANA-II compatible
```

networking hardware (see compatibility)

RECOMMENDED

Workbench 2.1 or later, Kickstart 2.1 or later, 1MB RAM, Hard disk
with 300k free in SYS:.

1.103   Envoy COMPATIBILITY

Any SANA-II networking hardware may be used with Envoy, including
Ameristar A4066, AmigaLink, ASDG LanRover, Commodore A2065 or
A2060 and SLIP (serial port).

Additional NON-IP, SANA-II compatible networking protocol stacks
may be run at the same time as Amiga Envoy over the same
networking hardware. AS225r2 is the version of Commodore's TCP/IP
package which is compatible with Envoy (through SANA-II
compatibility and close cooperation regarding IP packets).

1.104   Envoy AVAILABILITY

Available now from Amiga dealers or order direct from IAM
List Price: $59.95 (2-user)

1.105   IAM Developers Info

ADDITIONAL INFORMATION FOR DEVELOPERS

Developers of any Amiga networking products or networking
compatible products are encouraged to contact Intangible Assets
Manufacturing regarding inclusion of their products in the forth coming
"Amiga Networking Handbook." We want to make sure that Amiga
users can find out about every networking product that
they may need. We hope to do this by publishing information on all of
the products that are available.

Applications developers can also contact IAM for information
concerning consulting and documentation services or licensing Envoy
for use in your applications.

1.106   GRn

GRn   Gadtools Read news

GRn is a news reader program which was originally designed to work
with AmigaUUCP V1.08. Now it will work with AmigaUUCP V1.08-1.17,

wUUCP, various ports of C News (including wCNews), AmigaNOS via
AREXX scripts, NFS mounted news spools and NNTP in at least four
flavors (DNet, serial port, AmiTCP, and AS225r2). GRn integrates with
 INetUtils . Both GRn and INetUtils are available on Aminet

1.107 INetUtils

INetUtils

INetUtils is a series of programs designed to allow an Amiga running
AS-225 beta 2.0 software (i.e., socket.library capable) or AmiTCP 2.2
(or above) to interact and operate as fully functioning members of an
IP network, including the global InterNet.

INetUtils is copyrighted, but freely distributable.

The utility programs consist of:

  SMTPd : an SMTP daemon
  SMTPpost : an SMTP posting program
  SMTPExpand : an SMTP aliases expanding program
  NNTPpost : an NNTP posting program
  NNTPXfer : an NNTP article transfer program
  newgroup : a maintenance program for use with NNTP
  GetActive : an NNTP active file transfer program
  AmiPOP : a POP message handler
  Sabot : A newmail activity program

a NNTPd is in development.

The following man pages are included:

  SMTPd.man
  SMTPpost.man
  SMTPExpand.man
  NNTPpost.man
  NNTPxfer.man
  GetActive.man

and describe the operation of each program.

AmiPOP and Sabot were developed by Scott Ellis
(sellis@ucssun1.sdsu.edu) and all communication regarding them
should be directed to him. Separate documentation regarding them is
included in the AmiPOP and Sabot archives.

To properly utilize the NNTP capability requires an NNTP aware
newsreader and a mailreader. The 'G' package is presented to meet
this need.

 GRn is Gadtools Read News, which can properly read and post with
articles via NNTP directly or read with the local directory setup by
NNTPXfer, and post directly using NNTPpost. Documentation is
available in AmigaGuide format (GRn.guide).

GMail, Gadtools Mail, is also in development.

1.108   TorqueWare (TM)

TorqueWare (TM) by AugmenTek   is a means of developing and
running parallel programs over a network of Amigas. It provides six
simple C functions to handle the job of distributing data and execution
across the network. A graphical user interface allows for compiling
and linking locally or remotely, setting up the runtime environment, and
running the program -- but this can also be done manually. A hypertext
user's guide and tutorial are provided. Instructions for using the Amiga
as client to a computational server running on a Silicon Graphics or
Mac using TorqueWare form Torque Systems, Inc., are also provided.

TorqueWare is an implementation of the Linda parallel programming
model. Data are placed in a global data space that is accessible to all
processes, whether they run locally or across the network. One can
wait for data to appear, read it, or remove it from that global data
space. C functions can be run as separate tasks on either one
computer or multiple computers, and these remote functions access
that global data space. The global data space is content-addressable.

TorqueWare hides communication details, such as the nature of the
underlying communication mechanism, from you. It supports different
computers by handling byte ordering. TorqueWare attempts to keep
all of the computers busy if there is enough work.

As a programming utility, TorqueWare provides an operating system
independent way of multiprocessing. Applications include network
rendering (RayShade 3.0 already allows for Linda), news or database
filtering, image processing, and audio processing. An example of code
using TorqueWare versus socket programming can be found on
 Aminet under biz/demo/netprog_txt.lzh

TorqueWare requirements:
SAS C 6.x, AmigaDos 2.04 or higher, and network hardware for
multiprocessing.

MSRP for base development system $100
MSRP for general TCP/iP networking $150 per cpu.
Educational and quantity discounts available.

1.109   VLT

Valiant Little Terminal   by   Willy Langeveld

A terminal emulator providing both Tektronix and DEC emulation.
This little jewel has been around for quite awhile. It is available on Fred
Fish and Aminet.

Here is a note from Willy that came out just before I released this FAQ.

" PS: Oh, in case people haven't noticed: VLT and VLTjr 5.867 have
been released. Also, a minor update to rexxarplib was released
(version 3.3). I suspect these are all over the net by now..."

1.110   X11R4

X11 Release 4 server and library by GfxBase, Inc.

GfxBase provides both a server so that you can run x clients on your
Amiga, and a development library so that you can write x clients for
your Amiga or other x windows system.

 X11R4.3 Color Server
 X11R4 Development Libraries
 X11 product Availability

1.111   X11R4.3 Color Server

The X11 R4.3 server supports:

- Up to (NTSC)1440x482 (568PAL) resolution.
- Overscan, genlock, interlace, superhires, productivity, a2024 all
supported.
- Superscreens up to 2560x2560 scrollable under 2.0
- Up to 32 colors (lowres).
- AGA support: 256colors/16M

Local Clients:
olwm(OpenLook) twm(Tab Window Manager) bitmap, xfd, xfontsel,
xcalc, xmag, xsetroot, xsol, plus many more.

xpr (X printer program) supports all standard X devices plus supports
Amiga printers via the Amiga printer device mechanism.

Fonts: X11R5 fonts are included in this release.

 X11 Compatibility
 Optional color graphics cards
 X11 Requirements

1.112   X11 Compatibility

Software support
----
network support:
Commodore AS225 (tcp/ip) Thunder Ridge TSSnet (DECnet).

OS support:
Requires WB1.3 or later. Works better with 2.0. And best with 3.0

Coexists with Native Amiga Operating System, and works under
Intuition in its own pull down screen.

Hardware Support
----
input support:
international keyboards supported, Recommended 3 button mouse.

Compatibility with all models of the Amiga,
  A1000,A2000,A500,A2500,A3000,A3000T,A1200,A4000,A4000T.

1.113   Optional color graphics cards

Optional X11R5 for color graphics cards support
 – GDA1 from GfxBase
 – PicassoII
 – 1600GX from Ameristar

1.114   X11 Requirements

Requires minimum 1M of Ram for Server, more for local clients.
Requires 7M Harddisk, 15megs for standard installation.

1.115   X11R4 Development Libraries

-------------X11 Release 4 Development libraries--------------------

Specially modified to work under AmigaDOS with SAS/C 6.51

Libraries:
  Xlib,Xaw,Xext,Xt,Xmu,oldX,Xau, BSD sockets
Includes:
  X11 Release 4 standard include files

Some sample source and lmkfiles for learning X11 on the Amiga.

X11 programs on unix machines can be ported right to the Amiga.
Develop X applications on the Amiga and know they can be ported
to Unix platforms.

1.116   X11 product Availability

products available from Amiga Dealers or GfxBase, Inc.

--------- List Prices ---------------

```
software:
 X11R4:  $395/$90
 X11tk: $250/$45
 XView: $250
 X11 Local development system: $475/$100
   (does not include support for  as225/TSSnet)
 mwm motif window manager: $99
 Complete X11R4/with motif development system: $795.00


Hardware:
Boing 3button optical mouse, bought with X11, $75.00
GDA-1 hires graphics card 1024x768 256/16M colors $595.00
```

1.117   Hardware Specs

Specifications for Amiga Networking Hardware

```
 A2065
 A4066
 Amiga Link
 DoubleTalk
 GG2 Bus+
 Hydra
 ICard
 LAN Rover
```

1.118   A2065

A2065 by Commodore Business Machines

Function: Full ANSI 802.3 type Ethernet protocols over either Type A
(Thick Ethernet) or Type B (Thin Ethernet/Cheapernet) connections.
 The 32K onboard RAM Buffer provides shared RAM between
Am7990 processor and the Amiga.

Card Type: Amiga bus (100 pin), Autoconfig Interface Specs: 15 pin
female "D" connector for Type A (Thick Ethernet) networking with 100
nodes per segment Female BNC coax connector for Type B (Thin
Ethernet/Cheapernet) networking with 30 nodes per segment.

Speed: 10Mbps CSMA/CD interface DMA data reading and writing to
shared RAM Card Size: Full size Amiga board

1.119   A4066

the A4066 by Ameristar   replaces the A2065 ethernet card by
Commodore. The A4066 supports 10BaseT Thin, and Thick ethernet.
It is SANA II compatible and should support the AS225r2 software as
well as DECnet at the same time.

1.120   Amiga Link

Amiga Link is a floppy port based networking solution which is SANA II
compatible. It will work with any Amiga with a free floppy port including
CD32 with the expansion module, and a floppy with a pass thru port.

Transfer rate: 450,000 bits per sec (~ 45KB/sec)
Max cable length: 100 meters (~330 feet)
cable type: RG-58U 50 ohm co-axial
Cable connector: BNC and floppy port connector
Max # of computers: 20
Included Protocol: Network Operating System
optional Protocol: Envoy, or any SANA II compatible protocol
Supports remote printing using the Commodore CMD program.

Requirements: kickstart 1.2+, Workbench 1.3+, 512k ram
Recommended: Workbench 2.0+, 1MB+ ram, hard drive

SRP:
AmigaLink Starter Kit $259.95
   20 software licenses and hardware for 2 nodes
AmigaLink Single node $124.95
            hardware only, no cable.

1.121   DoubleTalk

DoubleTalk was by Progressive Peripheals

NOTE: This product may no longer be available.

Works with Amiga 500, 2000 and 3000. Apple File Protocol used in
standard AppleTalk networks. Share files, printers on existing
AppleTalk network.

For Amiga-only networks, has a high-speed mode (twice AppleTalk
speeds) and allows any Amiga to function simultaneously as a file
server, printer server or client.

Hardware: Network interface card with 512K ROM and phone jack
network adapter. Network card provides an additional serial port for
the Amiga.

Software utilities: Network Manager, AutoLogoff,
AutoPublish, password security, NetMail.

1.122   GG2 Bus+

The GG2 Bus+ by Software Results Enterprises   lets you add
IBM-compatible hardware to your Amiga. The most common additions
are extra parallel and serial ports, and _network_ cards.

The GG2 Bus+ is NOT a 486 bridgecard, and does NOT run windows,
it merely allows you to access less expensive PC cards.

 GG2 Bus+ Hardware Compatibility
 GG2 Bus+ PC drivers
 GG2 Bus+ Software Compatibility
 GG2 Bus+ Requirements
 GG2 Bus+ Availability

1.123   GG2 Bus+ Hardware Compatibility

The GG2 Bus+ supports almost all non-DMA AT-compatible (8 MHz
bus capable) PC plug-in boards. This includes such popular items as
internal modems, multi-I/O boards, IDE hard drive controllers,
non-DMA ethernet boards, VGA boards, A/D boards, etc. Access to
the PC cards is at full Amiga Zorro II bus speed unless wait state
support is turned on.

1.124   GG2 Bus+ PC drivers

PC drivers included with GG2 Bus+ are:

 ibmser.device
 A replacement serial device for internal modems and multi-I/O
 cards. Includes automatic use of the 16550 FIFO buffer when
 available. Support for up to 4 serial ports at once,
 equivalent of COM1-4.

 ibmprint.device
 A new parallel output-only driver for printing through IBM LPT
 compatible parallel ports on multi-I/O cards. Support for up
 to 3 printers at once, equivalent of LPT1-3.

 ibmIDE.device
 A driver program to allow the use of IDE, RLL or MFM hard drives.

 NE1000.device and NE2000.device
 These are SANA-II ethernet drivers for Novell NE1000 and
 NE2000 boards and compatibles.
NE1000 is 8 bit card, 8K memory
NE2000 is 16 bit card

1.125   GG2 Bus+ Software Compatibility

Since the Ethernet drivers are SANA II compliant, you can use your
GG2/Ethernet combination with all of the popular network packages,
such as Envoy (from IAM), AS225r2 (from Commodore) and
 AmiTCP (available via ftp from Aminet sites).

Commodore's AS225r1 is *not* a SANA-II networking package, and
will not work with an Ethernet card on a GG2 Bus+.

!!!
Oxxi's Novell Netware Client software is *not* a SANA II networking
package and will not work with an Ethernet card on a GG2 Bus+.
!!!

CrossPC and PCTask software PC emulators are aware of the GG2
Bus+ and will let you use IBM-compatible hardware from inside the
emulation. Among other IBM peripherals that have been successfully
operated are, ROM programmers and PC-television cards.

1.126   GG2 Bus+ Requirements

The GG2 Bus+ occupies one Zorro II slot aligned with an PC-AT slot in
an Amiga 2000, A2500, A3000, or A4000. It has essentially the same
form factor as a Commodore bridgeboard. You will need at least one
additional open PC-AT slot for your plug-in PC card. The GG2 Bus+
requires 1 Megabyte of available AUTOCONFIG memory space to
correctly map all of the PC memory locations. All address and data
lines to the PC bus are buffered to avoid loading-down Amiga bus
lines.

Most of the software requires 2.04 or higher. The actual device drivers
themselves (ibmser.device, ibmIDE.device...) will probably work under
Amiga Dos 1.3, but the support programs (like SwitchControl and
SerPrefs) don't.

1.127   GG2 Bus+ Availability

    $119.95 USD
All sales are being handled by Software Results Enterprises ,
so there are no distributors in any countries.

1.128   Hydra

Hydra   by   Hydra Systems

Ethernet cards for the Amiga 2/3/4000.
Did have a model for the A500.
Has SANA II driver with new boards or available from vendor.
Has thin wire connector (BNC) and a thick wire connector (15 pin D).

1.129   ICard

```
ICard by  Interworks
A 16 bit  ethernet card for the A1200's PCMCIA slot.
Provides 10BaseT and 10Base2 ethernet connectors.
Provides SANA II driver for compatibility with any SANA II compatible
network protocol  including Interworks  ENLAN-DFS

MSRP $299
```

1.130   LAN Rover

```
LAN Rover by  ASDG    LAN Rover is now called EB920.

A thin wire ethernet card for Amiga 2000,3000, and 4000.
It is a full length Zorro II card and comes with  SANA II  drivers and
supports adjustable interrupt settings and network address roms.

Being SANA II compatible means it will support all the major network
protocols available for the Amiga.

More info in a future release of FAQ
```

1.131   Manufacturers

```
For Additional information on Products and Vendors consult
"AC's Guide for the Commodore Amiga" at your local Amiga dealer or
newsstand or contact
 AC's Guide
 c/o PiM Publications
 P.O.B. 2140
 Fall River, MA 02722-2140
 phone: (800) 345-3360

 Ameristar
 ASDG
 AugmenTek
 Canadian Prototype Replicas
 Commodore Business Machines
 CSA
 GfxBase, Inc.
 Hydra Systems
 IAM
 Interworks
 Oxxi
 Progressive Peripherals
 SCALA, Inc.
 Software Results Enterprises
```

```
Spectronics
Thunder Ridge, Inc.
```

1.132 Ameristar

```
 Ameristar products are distributed by
 Creative Equipment International (CEI)
  5555 W. Flagler St
  Miami, Florida  33134  USA
  Phone (305) 266-2800
```

1.133 ASDG

```
 ASDG, Inc.
 925 Stewart St.
 Madison, WI 53713
 Phone (608) 273-6585
 Fax (608) 271-1988
```

1.134 AugmenTek

```
 AugmenTek
3606 S. 180th St. C-22
SeaTac, WA 98188-4339
USA
Phone: (206) 246-6077
email:  augmentek@acm.org
```

1.135 Canadian Prototype Replicas

```
    Canadian Prototype Replicas
     PO Box 8, Ontario, Canada
    (519) 884-4412
```

1.136 Commodore Business Machines

```
    Commodore Business Machines
    1200 Wilson Dr., West Chester, PA 19380
     (215) 431-9100, (215) 436-4200
```

1.137 CSA

```
CSA
Computer System Associates, Inc.
Stephen Riker, Director of Sales and Marketing
    CSA
    7564 Trade Street
    San Diego, CA 92121
    PH:(619)566-3911
    FAX:(619)566-0581
```

1.138 GfxBase, Inc.

```
Contact Dale Luck at
 GfxBase, Inc.
 PO Box 360814
 Milpitas, Ca. 95036-0814
 Phone: (408) 262-1469
 FAX: (408) 262-8276
for more info or more complete literature.
```

1.139 Hydra Systems

```
Hydra Systems
Wyndrushe House
Red Land, Kenilworth
Warwickshire
England CV8 1PB
Tel/Fax: +44 203 473333
```

1.140 IAM

```
IAM

Direct postal mail to:
    Intangible Assets Manufacturing
    828 Ormond Avenue
    Drexel Hill, PA  19026-2604
    USA

Direct electronic inquiries to:
    info@iam.com
```

1.141 Interworks

```
Interworks
43191 Camino Casillas
Suite B2469
Temecula, CA 92592-3714
phone and fax: (909) 699-8120
```

1.142 Oxxi

```
Oxxi
P.O. Box 90309,
Long Beach, CA 90809
Phone:   (310) 427-1227
```

1.143 Progressive Peripherals

```
      Last Known address for
      Progressive Peripherals & Software
       464 Kalamath Street, Denver, CO 80204
       (303) 825-4144, (303) 893-6938 (FAX)
```

```
Apparently out of business. Anyone with information on the disposition
of their product line pleas provide  FEEDBACK
```

1.144 SCALA, Inc.

```
SCALA, Inc.
12110 Sunset Hills, Dr. Ste 100
Reston, VA 22090
phone: (703) 709-8043
```

1.145 Software Results Enterprises

```
Software Results Enterprises
2447 N. 4th St., Ste. B
Columbus, OH 43202-2706
```

```
phone: 614/262-9146 (voice)
fax: 614/267-2683
```

```
 sales@kumiss.infinet.com
support@kumiss.infinet.com
```

```
Please use e-mail whenever possible.
```

It leaves more time to develop products.

Also be sure to ask for the GGII Bus+ FAQ which goes into
more specifics than is practical in this FAQ.

1.146 Spectronics

```
Spectronics Int'l USA
  34 E. Main Street #23
 Champaign, IL 61820
Phone: (217) 352-0061
Fax: (217) 352-0063
BBS: (217) 352-7627
```

Eddy Coopmans, President

1.147 Thunder Ridge, Inc.

```
Thunder Ridge, Inc.
N9353 Benson Road
Brooklyn, WI  53521
        phone: (608) 455-1039
         fax: (608) 455-1317
         email:  73071.1356@compuserve.com
```

1.148 Related FAQs

```
 AmigaNOS FAQ
 UUCP FAQ
 X11 FAQ
 AmiTCP FAQ
 Wiedmann's Amiga FAQ
 DAK's Amiga FAQ
 FAQ archive
 NEWS FAQ
 RFC
 BDG to Internet
 FTP FAQ
 ZEN
 misc
```

1.149 AmigaNOS FAQ

```
AmigaNOS is a serial port only version of TCP/IP.
The AmigaNOS FAQ is posted to comp.sys.amiga.datacomm
news.answers and comp.answers  news groups.
```

and should be on the FAQ archive as...
  /pub/usenet/news.answers/amiga/AmigaNOS-faq

1.150   UUCP FAQ

The UUCP FAQ is posted to the news groups alt.sys.amiga.uucp,
alt.answers, and to news.answers. It is available at the FAQ archive
site.

Parts of UUPC (a version of UUCP by John Gilmore) were ported to
the Amiga by William P. Loftus in 1986. After developing a system that
worked for him, it was taken over by Matthew Dillon, who (along with a
cast of dozens) developed it into a full-fledged UUCP package. Matt
took care of AmigaUUCP (often called DUUCP) from 1988 until 1992.

In 1992, Matt had the press of other obligations; and after the release
of AmigaUUCP v1.16, turned the buglists over to Michael B. Smith.
Michael is in the process of releasing AmigaUUCP v1.17. v1.17beta
has been available freely for some months (currently at update #4).

After Matt quit working on UUCP, Kai 'wusel' Siering also started on a
version of UUCP based on AmigaUUCP v1.15. It currently has most of
the v1.16 enhancements as well as other features. Its current version
is V0.23.

1.151   X11 FAQ

X windows is such a big topic there is a FAQ dedicated to it regardless
of vendor. It is posted in multiple parts in comp.windows.x and
news.answers news groups which means it is available from
 FAQ archive

You can send submissions to   faq%craft@uunet.uu.net

BTW, uunet.uu.net is one of those cross over points between the
USENET and the Internet.

1.152   AmiTCP FAQ

AmiTCP FAQ has been released by Neil McRae.
Look in the comp.sys.amiga.datacom news group for
biweekly updates. It is also an officially accepted FAQ
by the news.answers moderators. Therefore it can be
found in news.answers, comp.answers, and in the FAQ archive

1.153 Wiedmann's Amiga FAQ

```
  Jochen Wiedmann's Amiga FAQ

Can be found at  Aminet  sites in the
  /pub/aminet/tex/docs directory
with the file name  AmigaFAQxxxxxx.lha
where xxxxxx is the date.

  send submissions to
wiedmann@mailserv.zdv.uni-tuebingen.de

or  Am Eisteich 9
    72555 Metzingen (Germany)
    Tel.  07123 / 14881

Mr. Wiedmann's FAQ can now be found on line using Mosaic.
It is now part of Mr. Witbrock's Amiga Home Page.
It was converted to HTML from Amiga Guide by Mr. Witbrock's
AG2HTML.PL   perl script. The script is on line also.
```

1.154 DAK's Amiga FAQ

```
This document is a summary of information about
Science/School/UNIX software for the Amiga.

Originally compiled-by: rfarmer@nyx.cs.du.edu (Richard Akerman)
 Now maintained-by: dak@emx.cc.utexas.edu (Donald A Kassebaum)

 This FAQ is cross-posted around the middle of each month to
 comp.sys.amiga.applications, comp.unix.amiga, comp.answers and
news.answers

 also available on  AmiNet  sites:
  /pub/aminet/text/doc/AmigaSciSchUnix.lha

The news.answers automatic archiving software will store a copy of
this posting, available by anonymous FTP on

 rtfm.mit.edu [18.20.0.224]:
   /pub/usenet/news.answers/amiga/science-faq
```

1.155 FAQ archive

```
You can find numerous FAQ's posted to the news.answers  news
group.  They are also cross posted to *.answers for the specific news
group to which the FAQ is related. For example this FAQ is cross
posted to the comp.answers news group.  This makes it easier to find
related FAQ's.

There are several FAQ's slanted towards new users, so instead of
```

flaming someone try sending them the appropriate FAQ.

The FAQ's are updated periodically, and the older versions are
archived at several sites. Both the current and the archived
FAQ's are also available via Mosaic, and anonymous FTP in addition
to being available through the news.

RTFM.MIT.EDU [18.20.0.224] is one of the primary archive sites for
news.answers FAQ's and it supports anonymous FTP and email. To
use email send a message with "send usenet/news.answers/pdial" as
the message to mail-server@rtfm.mit.edu. For more information send
"help" as the message.

 Aminet
 Fred Fish

1.156   Aminet

Aminet is another archive site with many mirror sites. In addition to
FAQ's you can find all kinds of Amiga programs and files at an Aminet
site.   They usually have a directory called /pub/aminet.

 See the "All about FTP" FTP FAQ   for details on using anonymous
FTP to access the archive.

Aminet hosts are
     USA (MO)   ftp.wustl.edu   128.252.135.4
     USA (CA)   ftp.cdrom.com   192.153.46.2
     USA (TX)   ftp.etsu.edu   192.43.199.20
     Scandinavia   ftp.luth.se   130.240.18.2
     Germany   ftp.uni-kl.de   131.246.9.95
     Germany   ftp.uni-erlangen.de   131.188.1.43
     Germany   ftp.cs.tu-berlin.de   130.149.17.7
     Germany   ftp.uni-paderborn.de   131.234.2.32
     Germany   ftp.uni-oldenburg.de   134.106.40.9
     Germany   ftp.coli.uni-sb.de   134.96.68.11
     Switzerland   ftp.eunet.ch   146.228.10.16
     Switzerland   litamiga.epfl.ch   128.178.151.32
     UK   ftp.doc.ic.ac.uk   146.169.2.1
   Please use a mirror close to you!
There are other amiga related FTP sites. You can use Archie or
Veronica to locate sites that have a specific file you are looking
for and perhaps avoid overcrowding the mirror sites.

The Aminet Archive now has a Mosaic home page where the most
recent uploads can by found and retrieved. You can access it directly
or from Mr. Witbrock's Amiga Home Page.

Aminet also offers a mailing list for info on the recent uploads.
Just send one of the following as the body of the message to
listserv@wunet.wustl.edu

subscribe aminet-daily site@domain

subscribe aminet-weekly site@domain

where site@domain is your return email address. There are over 3000
addresses already on these lists.

A complete index of aminet files (over 600k) is located in the file
/pub/aminet/INDEX

1.157 Fred Fish

Fred Fish is/was a floppy based archive of public domain and
shareware software for the Amiga. Fred has begun to make the
archive available on CD Rom as well. Fred posts info on new CDroms
on the comp.sys.amiga.announce news group. Amazing Computing
Magazine also prints information about the Fred Fish collection and
may be handling the floppy distribution in the future.

The Fred Fish collection has been a valuable asset to the Amiga
community, and I will be adding more info to this section in future
releases of this FAQ.

The Fred Fish CD Rom is available from
     Amiga Library Services
     610 N. Alma School Road, Suite 18
     Chandler, AZ 85224-3687
     U.S.A.

     Phone/FAX: (602) 917-0917

1.158 NEWS FAQ

The NEWS FAQ can be found at the FAQ archive or on the
news.answers or comp.answers news group. It explains some of the
history and different incarnations of news servers and readers.

There are also specific FAQs for the INN news server and others.

Also there are specific news groups for those who wish to be
administrators of a news server.

1.159 RFC

RFC Request For Comment

These are good documents if someone wants to understand the
technical side of the protocol. They can be found online at a number
of sites by archie, but they are officially available from just a few.

RFCs can be obtained via FTP from
NIS.NSF.NET,   NISC.JVNC.NET,

VENERA.ISI.EDU,   WUARCHIVE.WUSTL.EDU,
SRC.DOC.IC.AC.UK, FTP.CONCERT.NET,
DS.INTERNIC.NET,   NIC.DDN.MIL.

Details on obtaining RFCs via FTP or EMAIL may be obtained by
sending
an EMAIL message to "rfc-info@ISI.EDU" with the message body
"help: ways_to_get_rfcs". For example:

        To: rfc-info@ISI.EDU
        Subject: getting rfcs

        help: ways_to_get_rfcs

Requests for special distribution should be addressed to either the
author of the RFC in question, or to NIC@NIC.DDN.MIL. Unless
specifically noted otherwise on the RFC itself, all RFCs are for
unlimited distribution.

1.160   BDG to Internet

Big Dummies' Guide (DBG) to Internet is available in Amiga Guide
format on Aminet . It explains more about the history of the Internet,
and some of the same topics covered in this FAQ. If this seems like an
awful lot of material to read, good because it is. You will NOT become
an expert over night.

So Relax, take a deep breath, and count to 10 often ;-)

1.161   FTP FAQ

All about FTP is a FAQ on the File Transfer Protocol (FTP) application
for the TCP-IP protocol. The FAQ is posted to comp.sys.amiga.misc,
comp.sys.amiga.introduction, and the comp.sys.amiga.datacomm
news groups.

It should be read by anyone wishing to download files from Aminet
or anyone wishing to know more about FTP.

It is posted by umueller@wuarchive.wustl.edu

1.162   ZEN

Zen and the Art of the Internet: A Beginner's Guide

A booklet explaining the basic concepts of ideas behind using the
Internet. It explicitly avoids machine or OS specific commands or bias.

The booklet is widely available, probably even from your service
provider. It is also available via FTP from ftp.uu.net [137.39.1.9] in the

pub/zen directory or you can use Archie or Veronica to locate a copy.

1.163 misc

miscellaneous stuff:

A domain name and host name can be had for free. Send email to
info@rs.internic.net

1.164 Feedback

Send corrections, updates and suggestions to:
norman@afas.msfc.nasa.gov
Richard Norman
ED36
MSFC, AL 35812 USA

All submissions will be considered altuistic donations to the network
community's pool of public knowledge.

Send flames to yourself for not getting off your behind and writing a
better FAQ yourself.   Besides I'm still learning too! ;-)