HyperIO

Harald Frank and translation by Schönfeld

COLLABORATORS

	TITLE : HyperIO		
ACTION	*NAME*	*DATE*	*SIGNATURE*
WRITTEN BY	Harald Frank and translation by Schönfeld	August 24, 2022	

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

Contents

Chapter 1

HyperIO

1.1   HyperIO - the professional communication solution

```
               Welcome to the new HyperCOM software
=====================================

 Basic information:


           about VMC Harald Frank
                Vendor-information

           Thank-you's
                These people have contributed to the product.)


           Support
                Where you can get help

           Licence agreement
                Please read before installing!

           The registration card
                Already completed and posted?

 HyperCOM and Amiga-UNIX:


           HyperCOM and NetBSD
                The better Amiga-Unix

           HyperCOM and Linux-/ APUS
                The most popular Amiga-Unix

 The hardware and the software drivers:


           HyperCOM 1 clockport
                NEW For Amiga 1200 and BuddhaFlash

           HyperCOM 3 clockport
```

```
                        For Amiga 1200 and BuddhaFlash

                HyperCOM 3+ clockport/Buddha
                        NEW For Amiga 1200 and all Buddha and CatWeasel models

                HyperCOM 3i
                        For HyperCOM 3z/4/ISDN-Blaster-Z2

                HyperCOM 3Tel
                        For ISDN-Blaster-Z2

                HyperCOM 3Z
                        For Zorro II Amigas and Draco

                HyperCOM 4
                        For Zorro II Amigas and Draco

                HyperCOM 3+
                        NEW For Zorro II Amigas and Draco

                HyperCOM 4+
                        NEW For Zorro II Amigas and Draco

  Additional goodies to the drivers:


                Aux-Handler
                        An external shell via terminal

                HydraCOM
                        A bidirectional transfer protocol

                NComm v3.06
                        A terminal-program

                Port-Handler
                        How to use the interfaces with Amiga-DOS

                PrintManager
                        The small, flexible assistant for easy printing

  Additional directions for installation:


                Device name and unit number
                        ..did you know?

                The serial prefs
                        What you won't need any more

                The parallel prefs
                        The small things you should know

  Additional hints for the hyperCOM.device:


                Miami and Miami-Deluxe
```

```
                    surfing the internet faster

              NetConnect and Genesis
                    surfing the internet faster

              Terminal-Software
                    Pay attention to this when using terminals


              Modems up to 14.4 KBaud
                    the ideal settings

              Modems up to 33.6 KBaud
                    the ideal settings

              Modems up to 56 KBaud
                    the ideal settings

              ISDN-TA's up to 64 KBit
                    the ideal settings

              ISDN-TA's up to 128 KBit
                    the ideal settings

  Additional hints for the hyperPAR.device:


              printing with HyperCOM
                    How to speed up your printer

              printing with TurboPrint
                    Two minutes for the whole config!
```

1.2 Everything about VMC Harald Frank

```
Vendor information:
VMC Harald Frank
Ringstr. 26
68789 St. Leon-Rot

National:
TEL: 06227/880460 13h-17h
FAX: 06227/880464 24h

International:
TEL: +49 (0) 6227/880460 13h-17h
FAX: +49 (0) 6227/880464 24h

VMC Internetaddress:
http://www.vmc.de

VMC eMail-Support-Address:
support@vmc.de
```

1.3   Thank-you's

Most important expressions of thanks go to:

My wife:

For her patience and understanding me spending so much time with
this computer.

Jens Schönfeld:

For his re-designed HyperCOM 3+ and 4+ being probably the best
interface boards for the Amiga on the market.

Ignatios:

For his NetBSD drivers for the Hypercom as well as the
ISDN-Blaster-Z2.

The many satisfied customers:

For their appreciation of my work and my products. You help
me keeping up my motivation with your support.

The few unsatisfied Customers:

For helping me bettering my products with your criticism.

Many others not mentioned in this list:

'cause everyone of you did his share to help me making
products for the Amiga.

1.4   Duties and rights of the user

The duties and rights of the user

By obtaining this product, you have not only bought the
right to have flawless function and support for it.

By obtaining this product, it is your duty to report problems
or malfunctions as fast as possible to us. Even if you're not
sure if the problem is caused by this product, it's very
important to pass the information to us.

With years of experience, we can find the cause and work out
a possible solution very fast.

Please consider that there are many different possible
configurations of hard and software in the computers of our
customers. Therefore, it's not always possible to cover all
the possible malfunctions caused by interactions between the
components of your configuration, or even pre-compensate them
in the product.

```
The rights of the user

You - as our customer - have got the right to claim an
errorfree product. We - as the vendor - have got the duty
to observe the quality of our products and to eliminate problems
as long as they are proved to be caused by our
product. If the problem is not located in our product, we
have got the right to claim all our financial efforts back
from you.

Please include these things with a bugreport:


1.) A precise list of your configuration.

2.) A precise list of all the software you are using.

3.) the exact names and revisions of the products.

4.) Version numbers of the programs and hardware components.

5.) A detailed description of the problem, so be can reproduce
    the bug in our machines.

We need these thing via e-mail, fax or snail mail, that is:
written, not just told on the phone. There can be too many
misunderstandings on the phone. Information may reach us
incomplete. Our experience has shown that phone support takes
too much time and therefore is very inefficient.

The most efficient method is e-mail as long as you provide
all the information mentioned above.
```

1.5   How to solve problems easily on your own

```
               Where can I get support?

Usually, you'll get the support at the place where you've
bought the product. As an alternative, we can provide
competent answers to your questions. Please also read the
terms and conditions of the
            license agreement
            .

E-mail

The easiest way to contact us is e-mail. Our e-mail
address can be found here ->
            About VMC Harald Frank
            .

The user-feedback on our web page

On our internet site http://www.vmc.de we have a
```

special public forum where you can talk about problems, hints and
tricks with other users. Since this has been started in German, you'll
only find German questions and answers at this point of time (June '99).
Feel free to write in English if you wish!

1.6 Please pay attention to this!

The registration card:

```
        Name: please enter your last name here
     Vorname: Please write your first name here
         Str: street and number
     PLZ/Ort: ZIP, city and state

       eMail: If you have an e-mail address, write it down here.
         Tel: Your phone number (optional).
         Fax: Your fax number (optional).

     Produkt: Has already been completed
 Bezogen bei: The name of your dealer.
```

1.7 HyperCOM and NetBSD

```
HyperCOM and NetBSD

If you want to use your HyperCOM card with NetBSD, it won't be
a problem. There are already drivers for NetBSD 1.4 for nearly
all Hypercom versions. You can find more information about
NetBSD under http://www.netbsd.org.

Here's brief overview

NetBSD      1.3.2 1.3.3 1.4   -current
====================================================================
HyperCOM Z3 ser   yes yes yes    yes
HyperCOM 4    yes yes yes    yes
HyperCOM 3+ ser   - - yes    yes
HyperCOM 4+ ser   - - yes    yes
HyperCOM 3+ par   - - patch    yes
HyperCOM 4+ par   - - patch    yes

ISDN [M|Bl]aster  - - with i4b  with i4b
(all versions)

Where to get NetBSD:

- http://www.netbsd.org/Releases/
```

```
- 1.3.2 CD-ROM Gateway Volume 3
- 1.3.3 ftp.netbsd.org:/pub/NetBSD/NetBSD-1.(3.3|4)/(amiga|sources)
- 1.4   ftp.netbsd.org:/pub/NetBSD/NetBSD-1.(3.3|4)/(amiga|sources)

Patch for HyperCOM parallel port:

ftp.netbsd.org:/pub/NetBSD/arch/amiga/misc/hypercom-parallel.*

i4b-Package:

http://www.netbsd.org/Changes/index.html#isdn4bsd-00.80
```

1.8 HyperCOM and Linux

```
HyperCOM and Linux-/ APUS

If you want to use the HyperCOM card under LinuxM68k or APUS,
you have to be a little patient. The necessary drivers are being
written and tested at this point of time.

We'll publish the information about how to get the drivers on
our web site http://www.vmc.de.
```

1.9 HyperCOM 1 for the Amiga 1200 and BuddhaFlash clockport

```
HyperCOM 1

HyperCOM 1 for the Amiga 1200 and BuddhaFlash clockport

Technical data:

Interface     : Amiga 1200 clockport
Interface     : Individual Computers BuddhaFlash clockport
connector     : 1 * RS232 SUBD-25 (~30cm flat cable + backplane)
flow control  : Software xON/xOFF and Hardware RTS/CTS
Baud rate     : minimum 50, up to a maximum of 460.800 bits per second
Serial FIFO   : 32 bytes output / 32 bytes input buffer

Serial software and driver information:

DEVICE    hyperCOM1.device
UNIT    0

Parallel software and driver information:

NONE
```

1.10 HyperCOM 3 for the Amiga 1200 and BuddhaFlash clockport

```
HyperCOM 3

HyperCOM 3 for the Amiga 1200 and BuddhaFlash clockport

technical data:

Interface      : Amiga 1200 clockport
Interface      : Individual Computers BuddhaFlash clockport
connector      : 2 * RS232 SUBD-9/25 (~30cm flat cable + backplane)
connector      : 1 * LPT bidirectional PC/AT SUBD-25 (~30-35cm flat cable +  ↩
    backplane)
flow control   : Software xON/xOFF and Hardware RTS/CTS
Baud rate      : minimum 50, up to a maximum of 460.800 bits per second
Serial FIFO    : 16 bytes output and 16 bytes input buffer

Serial software and driver information:

DEVICE    hyperCOM3.device
UNIT    0,1

Parallel software and driver information:

DEVICE    hyperPAR.device
UNIT    0
```

1.11   HyperCOM 3+ for the Amiga 1200, all Buddha and CatWeasel

```
HyperCOM 3+

HyperCOM 3+ for the Amiga 1200, all Buddha and CatWeasel

technical data:

Interface      : Amiga 1200 clockport
Interface      : Individual Computers BuddhaFlash clockport
Interface      : Individual Computers all Buddha, CatWeasel Expansion ports
connector      : 2 * RS232 SUBD-9/25 (~30cm flat cable + backplane)
connector      : 1 * LPT bidirectional PC/AT SUBD-25 (~30-35cm flat cable +  ↩
    backplane)
flow control   : software xON/xOFF and Hardware RTS/CTS
Baud rate      : minimum 50, up to a maximum of 460.800 bits per second
Serial FIFO    : 16 bytes output / 16 bytes input buffer

Serial software and driver information:

DEVICE    hyperCOM3.device
UNIT    0,1

Parallel software and driver information:

DEVICE    hyperPAR.device
UNIT    0
```

1.12 HyperCOM 3i expansion module for HyperCOM 3z/4/ISDN-Blaster-Z2

```
HyperCOM 3i

HyperCOM 3i expansion module for HyperCOM 3z/4/ISDN-Blaster-Z2

technical data:

Interface      : HyperCOM 3Z/4/ISDN-Blaster-Z2 26 Pin expansion port
connector      : 2 * RS232 SUBD-9/25 (~30cm flat cable + backplane)
connecto   r : 1 * LPT bidirectional PC/AT SUBD-25 (~30-35cm flat cable +  ↩
   backplane)
flow control   : software xON/xOFF and Hardware RTS/CTS
Baud rate      : minimum 50, up to a maximum of 460.800 bits per second
Serial FIFO    : 16 bytes output / 16 bytes input buffer

Serial software and driver information:

HyperCOM 3i on HyperCOM 3Z:
DEVICE    hyperCOM30Z.device
UNIT    2,3

HyperCOM 3i on HyperCOM 4:
DEVICE    hyperCOM40.device
UNIT    4,5

HyperCOM 3i on ISDN-Blaster-Z2:
DEVICE    hyperCOM30Z.device
UNIT    0,1

Note:

The name of the device driver can be different depending on the
number of cards you have installed in your system. The numbers
in the device name just depend on the number of the card you
want to access. Example: hyperCOM30Z.device will access the first
card in your system while hyperCOM31Z.device will access the
second Hypercom 3Z.


Parallel software and driver information:

DEVICE    hyperPAR.device
UNIT    0 up to ?

Note:

While the serial device drivers have to be accessed through different
device driver names, the hyperPAR.device will utilize all cards in
the system and give you as many units as you have parallel ports,
starting with unit number 0.
```

1.13 HyperCOM 3Tel for ISDN-Blaster-Z2 26 Pin expansion port

HyperCOM 3Tel

HyperCOM 3Tel for ISDN-Blaster-Z2 26 Pin expansion port

technical data Multi-I/O:

```
Interface      : HyperCOM 3Z/4/ISDN-Blaster-Z2 26 Pin expansion port
connector      : 2 * RS232 SUBD-9/25 (~30cm flat cable + backplane)
connector      : 1 * LPT bidirectional PC/AT SUBD-25 (~30-35cm flat cable +  ↩
   backplane)
flow control   : software xON/xOFF and Hardware RTS/CTS
Baud rate      : minimum 50, up to a maximum of 460.800 bits per second
Serial FIFO    : 16 bytes output / 16 bytes input buffer
```

technical data Telephone-Codec:

```
Interface      : ISDN-Blaster-Z2 10 Pin expansion port
Interface      : 10 Pin to RJ-11 Telephone Jack (Head-/ Handset only, don't  ↩
   connect a phone!)
```

Serial software and driver information:

```
HyperCOM 3Tel on ISDN-Blaster-Z2:
DEVICE    hyperCOM30Z.device
UNIT    0,1
```

Note:

The name of the device driver can be different depending on the
number of cards you have installed in your system. The numbers
in the device name just depend on the number of the card you
want to access. Example: hyperCOM30Z.device will access the first
card in your system while hyperCOM31Z.device will access the
second Hypercom 3Z.

Parallel software and driver information:

```
DEVICE    hyperPAR.device
UNIT    0 up to ?
```

Note:

While the serial device drivers have to be accessed through different
device driver names, the hyperPAR.device will utilize all cards in
the system and give you as many units as you have parallel ports,
starting with unit number 0.

1.14   HyperCOM 3Z for Zorro II Amigas and Draco

HyperCOM 3Z

HyperCOM 3Z for Zorro II Amigas and Draco

technical data:

```
Interface       : Zorro II/III
connector       : 2 * RS232 SUBD-9/25 (~30cm flat cable + backplane)
connector       : 1 * LPT bidirectional PC/AT SUBD-25 (~30-35cm flat cable +  ←
    backplane)
flow control    : software xON/xOFF and Hardware RTS/CTS
Baud rate       : minimum 50, up to a maximum of 460.800 bits per second
Serial FIFO     : 16 bytes output / 16 bytes input buffer
expansion port  : 26-pin connector for
              HyperCOM 3i
                Serial software and driver information:


DEVICE    hyperCOM30Z.device
UNIT    0,1

Note:


The name of the device driver can be different depending on the
number of cards you have installed in your system. The numbers
in the device name just depend on the number of the card you
want to access. Example: hyperCOM30Z.device will access the first
card in your system while hyperCOM31Z.device will access the
second Hypercom 3Z.


Parallel software and driver information:

DEVICE    hyperPAR.device
UNIT    0 up to ?


Note:


While the serial device drivers have to be accessed through different
device driver names, the hyperPAR.device will utilize all cards in
the system and give you as many units as you have parallel ports,
starting with unit number 0.
```

1.15   HyperCOM 4 for Zorro II Amigas and Draco

```
                HyperCOM 4

HyperCOM 4 for Zorro II Amigas and Draco

technical data:

Interface       : Zorro II/III
connector       : 4 * RS232 SUBD-9/25 (~30cm flat cable + backplane)
flow control    : software xON/xOFF and Hardware RTS/CTS
Baud rate       : minimum 50, up to a maximum of 460.800 bits per second
Serial FIFO     : 16 bytes output / 16 bytes input buffer
expansion port  : 26-pin connector for
              HyperCOM 3i
                Note:


This (old) version of the Hypercom 4 can be expanded with the 16C654
```

UART, which gives you 64 bytes FIFO per serial port!

Serial software and driver information:

```
DEVICE    hyperCOM40.device
UNIT    0,1,2,3
```

Note:

The name of the device driver can be different depending on the
number of cards you have installed in your system. The numbers
in the device name just depend on the number of the card you
want to access. Example: hyperCOM30Z.device will access the first
card in your system while hyperCOM31Z.device will access the
second Hypercom 3Z.

1.16   HyperCOM 3+ for Zorro II Amigas and Draco

HyperCOM 3+

HyperCOM 3+ for Zorro II Amigas and Draco

technical data:

```
Interface     : Zorro II/III
connector     : 2 * RS232 SUBD-9/25 (~30cm flat cable + backplane)
connector     : 1 * LPT bidirectional PC/AT SUBD-25 (~30-35cm flat cable +  ←
    backplane)
flow control  : software xON/xOFF and Hardware RTS/CTS
Baud rate     : minimum 50, up to a maximum of 460.800 bits per second
Serial FIFO   : 16 bytes output / 16 bytes input buffer
```

Serial software and driver information:

```
DEVICE    hyperCOM30Z.device
UNIT    0,1
```

Note:

The name of the device driver can be different depending on the
number of cards you have installed in your system. The numbers
in the device name just depend on the number of the card you
want to access. Example: hyperCOM30Z.device will access the first
card in your system while hyperCOM31Z.device will access the
second Hypercom 3Z.

Parallel software and driver information:

```
DEVICE    hyperPAR.device
UNIT    0 up to ?
```

Note:

While the serial device drivers have to be accessed through different

device driver names, the hyperPAR.device will utilize all cards in
the system and give you as many units as you have parallel ports,
starting with unit number 0.

1.17   HyperCOM 4+ for Zorro II Amigas and Draco

HyperCOM 4+

HyperCOM 4+ for Zorro II Amigas and Draco

technical data:

```
Interface       : Zorro II/III
connector       : 4 * RS232 SUBD-9/25 (~30cm flat cable + backplane)
connector       : 2 * LPT bidirectional PC/AT SUBD-25 (~30-35cm flat cable +  ↩
   backplane)
flow control    : software xON/xOFF and Hardware RTS/CTS
Baud rate       : minimum 50, up to a maximum of 460.800 bits per second
Serial FIFO     : 16 bytes output / 16 bytes input buffer
```

Serial software and driver information:

```
DEVICE    hyperCOM40.device
UNIT    0,1,2,3
```

Note:

The name of the device driver can be different depending on the
number of cards you have installed in your system. The numbers
in the device name just depend on the number of the card you
want to access. Example: hyperCOM30Z.device will access the first
card in your system while hyperCOM31Z.device will access the
second Hypercom 3Z.

Parallel software and driver information:

```
DEVICE    hyperPAR.device
UNIT    0 up to ?
```

Note:

While the serial device drivers have to be accessed through different
device driver names, the hyperPAR.device will utilize all cards in
the system and give you as many units as you have parallel ports,
starting with unit number 0.

1.18   The external shell via a terminal

AUX: the Amiga-DOS handler for a serial Shell

With the Aux-handler in the "goodies" directory, you can make
an externally accessible shell with a simple mountlist entry.

With this handler, you can work on another computer with a
terminal program, as if it was a local shell window on the Amiga.

Every character you enter in the terminal program is transferred
to the remote Amiga. You can start programs (shell commands) that
will run on the remote computer. The output is transferred back to
the terminal program.

For closer information, please read the ReadMe file contained
in the archive.

1.19   A bidirectional transfer protocol

HydraCOM, the bidirectional transfer protocol

The HydraCOM protocol in the "goodies" directory gives you the
opportunity to transfer data in both directions at the same time.

In bulletin board systems, the popular "Z-modem" protocol
is being used most often. This protocol can only transfer
files in one direction, although most modems can transfer data
in both directions at the same time.

By using the Hydra protocol, you can transfer files in both
directions at the same time. This will save time and money
(you've got to know that local calls have to be paid in most
European countries).

The terminal program "term" can use the HydraCOM protocol
in all versions.

For closer information, please read the Readme files in the
archive.

Note:

There are various versions and implementations of Hydra on
the Amiga, but most of the implementations are not properly
ported to the Amiga, and have big problems with interface
cards. The version provided on this disk has been corrected
in order to work properly with interface cards. Special thanks
must got to Olaf "Olsen" Barthel for this.

1.20   A terminal program

A terminal program

The program NCOMM in the "goodies" directory is one of the
first programsof this kind.

Using a terminal program is not the most modern kind of
communication, but with a terminal program, you can do
lots of things that would be hard to do otherwise.

What's it for?

With a terminal program, you can exchange data easily
between two computers. You just have to start another
terminal program on the second computer, and set both
programs to the same transfer protocol.

Especially if you want to configure a modem or an ISDN-TA,
you'll need a terminal software to transfer the necessary
commands to the device. There may be specialized software
for modems or ISDN-TA's, but most of the times it's not
very powerful, or it's not available for Amiga OS.

What's even more important: Not everyone who has got a modem
or an ISDN-TA has got an internet portal site, but with a
terminal program, downloading software updates from bulletin
board systems is possible without using the internet.

Note:

To be able to utilize all functions of NComm 3.06, you'll
also have to install the free keyfile, which can also be
found in the "goodies" directory. Closer information about
NComm can be found in the manual, which is also in the archive.

1.21   How to use the interfaces with Amiga DOS

How to use the interfaces with Amiga DOS

The port-handler in the "goodies" directory is a full
replacement for the original port handler of the workbench
which can be found in the L: directory of your system.

The original port-handler is meant for the Amiga DOS devices
PAR: and SER:. These devices are being mounted into the
system with mountlist entries and can be used with all
Amiga DOS commands.

This new port-handler gives you more than the old Commodore
handler. With the new one, you can make mountlist entries
for all interfaces of the Hypercom, so the interfaces are
fully integrated into the Amiga OS.

The internal DOS devices of the Amiga:

PAR:

The device name PAR: is an Amiga OS internal name for the
internal parallel port. If you copy a file to PAR: with the
copy command of a shell, the file will be transferred directly
to parallel.device without using the printer driver.

Example:

copy s:startup-sequence to PAR:

If you enter this line in a shell, the system-file
s:startup-sequence will be sent to your printer. No additional
information will be transferred to the printer, so the font and
size will be your printer's default, not the settings
you made in the Printer-Prefs.

SER:

The device name SER: is an Amiga OS internal name for the
internal serial port.If you copy a file to SER: with the copy
command of a shell, the file will be sent to the serial.device
directly. Being different from PAR:, the preferrences you entered
in the serial prefs are used. These settings are the parameters
for opening the serial.device. The old Amiga DOS port-
handler could not make changes to these settings, but with this
new handler, all the settings are being made in the mountlist.
Therefore, the Hypercom drivers don't need a serial prefs program!

Example:

copy s:startup-sequence to SER:

If you enter this line in a shell, the file s:startup-sequence
will be sent to the internal serial interface. This operation
doesn't make any sense, 'cause a modem can't do anything with
an ascii file. Hey, it's just an example!

Note:

There are some mountlist entries in the archive that just have
to be copied to your DEVS:dosdrivers directory. If you have
a properly installed workbench installation (V2.1 or higher),
you can use the new entries after your next reboot.

1.22 The small and flexible manager for convenient printing

PrintManager, the small and flexible manager for convenient printing

The Printmanager archive in the "goodies" directory contains
a useful program that helps you doing all kinds of print jobs
very convenient.

The built-in spooler

There's a spooler integrated in Printmanager that collects
and saves data for printing. With this option, programs that
print don't have to wait for the printer to finish. The print
spooler will store the data and "tell" the program that prints
that the work is done, although the printer is still busy. You
can continue your work with the program without having to wait

for the printer, and even send more print jobs.

Volume discount...

A second function of print manager is the option to save a
document not as the document itself, but as the data that is
being sent to the printer. This allows you to print the
document again without having to load the program (for example
a word processor) and choose "print" again. It'll save time
and memory if you want to print a large quantity of a single
document.

and much more...

A detailed description of all functions of Printmanager
can be found in the archive.

Note:

The PrintManager program is ShareWare and it has been included
in the HyperCOM software with permission of the author. Please
pay the shareware fee to the programmer if you find the
program useful, even if you don't use it regularly. You'll
support further developement of this program with your money.

1.23   Device Name and Unit number

The Device's name

Many users will misunderstand the device name, please
read this chapter carefully to understand the meaning
of a device driver.

Under Amiga OS, an interface is always being accessed through
a device driver. This driver is a piece of software, located
in the DEVS: directory. It's a collection of program code to
access the hardware itself. This separates the hardware access
from the program that wants to access the interface itself and
eliminates the need for a programmer to take care of the
hardware of each hardware accessory, because the device driver
has already been written and gives you all necessary functions
through a unified software interface, no matter what vendor
the hardware add-on is from. You can identify a device driver
from it's name, it ends with .device.

Most programs that make use of these device drivers have a
place where you can enter the device name. Some programs even
give you the convenient possibility to choose a device driver
with a file requester.

In general, you just have to make sure that the device name you
enter is exactly the name of the file in the DEVS: directory.
being different from most systems files, the device names are
case-sensitive. That means, if you want to enter the device

name for a Hypercom 1 card, it must be "hyperCOM1.device" and
not "HyperCOM1.device" or "hyperCom1.device".

The Unit number

The second important parameter in addition the device name is
the unit number. With the unit number, you specify a certain
piece of the hardware you want to access. If a hardware device
has got more than one hardware interface of one kind, the unit
number will specify the number of the interface. Take the
Hypercom 3 for example: It has got two serial interfaces that
can both be accessed with the hyperCOM30.device. If you specify
unit number 0, the first connector will beused while unit number
1 will choose the other connector. If you have another Hypercom 3
in the system, unit numbers will start at 0 again with
"hyperCOM31.device".

Two different methods of implementation

Although there are many possibilities for an implementation,
they can be divided into two basic methods.

Method 1:

This method uses a single device driver for each hardware that
is being accessed. The hardware supported can even be located
on different add-on cards or – in uncommon cases – on a different
computer that is connected with a network.

We use this method in the hyperPAR.device. No matter where
the parallel port is located, it can be accessed with the
hyperPAR.device. The port itself is being specified with the unit
number.

Method 2:

In the second method, every card has got it's own device driver.
The unit numbers of these device drivers only refer to a single
card, so with the next card and device driver, numbering starts
at 0 again. This method is being used on the serial interfaces
of the HyperCOM cards. The reason is evident: The effort of
having a single device with increasing unit numbers for all
interfaces in the system is much higher than having separate
devices for separate cards.

The second reason for this is that some programs do not allow
to enter a unit number. If we'd have chosen method 1, you would
be limited to unit number 0 for that programs, although you may
have lots of serial interfaces.

1.24 The serial prefs

The serial prefs

If you're looking for the serial prefs program on the driverdisk,

you won't be very lucky.

The reason is simple: You don't need it. The serial prefs of
the internal serial.device is only necessary for the SER: device,
but that's not necessary for the aux-handler of the HyperCOM,
because the prefs are being set with the mountlist entry.

The other reason why there is a serial prefs program for the
internal serial connector is historic. It was meant to specify
settings for the serial interface for programs that can open
the serial port, but cannot change the interface parameters.
Since every up-to-date program can do these settings, the
settings you do in the prefs program would always be overwritten
by the settingsof the program.

Please pardon our laziness not implementing obsolete software.

1.25   The parallel prefs

                 The parallel prefs

There's a program in the prefs directory of your
workbench which is used to set the printer port
prefs.

If you have taken a look at all the menu items, you may
have noticed that there's no possibility to change the
device name and unit number. Don't worry, the programmers
at Commodore didn't forget this, it's just notimplemented.

The file printer.prefs contains a field where the device
name and the unit number is stored, and you have a couple
of ways to alter this entry.

SETPUNT of the Printmanager, or printing via HyperCOM

In the archive of the
             Printmanager
               there's a CLI command named
SetPUNT. This command allows you to modify the file printer.prefs
easily using the shell and set any device name and unit number.
After doing the changes, you just have to restart your computer
and the change takes effect.

1.26   Miami and Miami Deluxe

The ideal configuration of Miami and Miami Deluxe

If you're using Miami or Miami Deluxe for your internet access,
there's a couple of things you should change in order to work
properly with the HyperCOM card.

Use CD

This option should be activated in the interface menu. With this
setting, the Carrier detect signal of an external modem or ISDN-TA
is being checked.

EOF-Mode

In the same menu you can find a cycle gadget where you can choose
the EOF mode. Set this gadget to ON, 'cause the default
setting is AUTO. If set to ON, Miami will only
get complete PPP/SLIP packets, thus eliminating the need to check
single characters. You'll be surprised by the increase of performance
that this single setting can make.

MTU-Size

You should enter the maximum size in the field "MTU size" your
privider allows. If you don't have infrmation about this value,
just ask your provider, he'll be able to tell you.

This value defines the data packet size, which is extremely
important for the maximum efficiency during your internet
session. The larger the value, the smaller is the overhead that
has to be transferred, so the bandwidth of your modem or ISDN-TA
is utilized best. The largest German internet provider T-Online
allows a maximum of 1524.

If you want closer information about the configuration of
Miami, please consult the Miami manual.

1.27   NetConnect and Genesis

The ideal configuration of NetConnect and Genesis

Please set the EOF-Modus to ON in the PPP sub
menu which is located in the interfaces menu.

With the EOF-mode switched on, the appp.device will only get
complete PPP-packets, thus eliminating the need to check every
single character. You'll be surprised by the increase of
performance that this single setting can make for every internet
application.

1.28   What to mind with every terminal program

General settings

there's only a few things to mind with terminal programs. The
differences between the programs are mostly cosmetic changes,
the basic functions are all equal, just menus and icons are

a bit different.

The most important thing is the menu item where you can do
changes to the interface used. In most terminal programs,
this item is clearly marked, so you don't waste too much time
searching for it.

This is a "must-have":

A field for the device
A field for the unit number
A field for the baud rate
A field for the number of data bits
A field for the parity (even/odd/none)
A field for the number of stopbits

This can be useful, but not necessary

A possibility to toggle exclusive or shared mode
A field for the serial buffer size

If all of the above is present in your terminal program, you can
be sure that it's compatible with interface add-on cards.

1.29   the ideal settings for Modems and ISDN-TA's

the ideal settings for modems and ISDN-TA's

There are some things to observe with Modems and ISDN-TA's to
squeeze the fastest transfer rates out of your phone line.

The rule for analog modems is:

the serial baud rate should be twice as fast as the connect speed.
Since most modems use a compression for the data to transfer, the
modem may transfer more data per second than you may expect if you
just look at the connect speed. The packing rate reaches values
of up to 4 for text files, so choosing an even higher DTE rate
(the speed between your modem and your computer) may seem useful,
but these values are not reached in everyday work.

Checking if your external serial device supports a certain baud
rate can be done with a terminal program. Just start it, set it
to the baud rate you want to check, and enter the two characters
AT followed by <enter>. Everytime you enter these
characters, the modem or ISDN-TA must respont with OK. If the
device doesn't respont with OK, or even doesn't echo the AT
command, you'll have to reduce the DTE speed (baud rate). Closer
information about the top DTE speed of your modem should be in
your modem's manual. Here's some recommended speeds:

Modems up to 14.4 KBaud

Modems with a connect speed of up to 14400 bits per second should
be used with 38400 baud. If your model allows 57600 baud, use this

```
speed.

Modems up to 33.6 KBaud

Modems with a connect speed of up to 33600 bits per second should
be used with 115200 baud. If your model allows 230400 baud, use this
speed.

Modems up to 56.0 KBaud

Modems with a connect speed of up to 56000 bits per second should
be used with 115200 baud. If your model allows 230400 baud, use this
speed.

ISDN-TA's up to 64.0 KBit

ISDN-TA's with a connect speed of up to 64000 bits per second should
be used with 115200 baud. If your model allows 230400 baud, use this
speed.

ISDN-TA's up to 128.0 KBit

ISDN-TA's with a connect speed of up to 128000 bits per second should
be used with 230400 baud. If your model allows 460800 baud, use this
speed.

Note:

We have tested the following devices at these top DTE rates:

ZyXEL    460.800 KBit All ISDN-TA's and Modems of the Omni series
Elsa, TKR 230.400 KBit All ISDN-TA's
Elsa, TKR 115.200 KBit All Modems up to 56.0 KBaud
USR-/ 3Com  230.400 KBit External I-Courier modems only.
USR-/ 3Com  115.200 KBit All Modems up to 56.0 KBaud
Supra    230.400 KBit Modems with 56.0 KBaud
Supra    115.200 KBit All Modems up to 33.6 KBaud
```

1.30   printing via TurboPrint

```
printing via TurboPrint

With the Turboprint software, printing is easily done with your
HyperCOM interface board.

First, start Turboprint (Turboprefs) and go to the "printer" menu.
In the right half of the window, there's a button with four items:

turbopar, device, parallel and serial

Set this button to device and the field below will be free
for another entry. Just enter hyperPAR.device in that field,
choose the correct unit number of the parallelport you're using and
```

you're done! Don't forget to save the new settings.