

# **Package PPP**

## **Version 3.10.5**

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# 1. Documentation For Package PPP

## 1.1. PPP - Connection Of Computers Via Serial Interface

With `OPT_PPP='yes'` a computer can be connected via its serial interface. This may be useful i.e. for connecting computers to a network that does not have a network interface card. The computer connected to the serial interface is called client PC below.

**PPP\_DEV** Specify fli4l's serial interface the client PC is connected to. Possible values are:

'com1' COM1 port (lower cases only!)  
'com2' COM2 port (lower cases only!)

**PPP\_SPEED** Set transfer rate here (bit/sec). 38400 is supported by older interfaces too. Problems may occur when using rates above this.

Example: `PPP_SPEED='38400'`

**PPP\_IPADDR PPP\_PEER** `PPP_IPADDR` holds fli4l's IP address on the COM port, i.e. '192.168.4.1'. In variable `PPP_PEER` the IP address of the client PC is set, i.e. '192.168.4.2'.

**PPP\_NETWORK PPP\_NETMASK** `PPP_NETWORK` holds the network used and variable `PPP_NETMASK` the netmask. These two variables are used by the extra package 'samba\_lpd'.

**Important:** *Consider the following:*

1. Those IP addresses may **not** originate from the network address range of the ethernet LANs. Point-To-Point-Configuration must use a separate network address range!
2. For the Client PC's connection to the Internet this mini-PPP-network has to be masked in the same way as the LAN. In order to achieve this extend the list of networks to be masked via the variable `PF_POSTROUTING_%` (Page ??) (see next passage).
3. The client PC should be added to the host table of the DNS server.

Causes:

If telnet or ftp should be used from the client PC to the fli4l router the daemons concerned on fli4l do a reverse DNS lookup to resolve the client PC. If it is not found in the host table a connection to the Internet will be established to do this - which is of course useless. To avoid this enter the client PC in the host table.

Example for PPP Configuration over the serial interface:

```
PPP_DEV='com1'
PPP_SPEED='38400'
```

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```
PPP_IPADDR='192.168.4.1'  
PPP_PEER='192.168.4.2'  
PPP_NETWORK='192.168.4.0'  
PPP_NETMASK='255.255.255.0'
```

and further on in config/base.txt:

```
PF_POSTROUTING_N='2'  
PF_POSTROUTING_1='192.168.6.0/24 MASQUERADE'  
PF_POSTROUTING_2='192.168.4.0/24 MASQUERADE'
```

The first network is the one of the ethernet LAN and the second the one of the PPP network.

Last thing is to adapt DNS Configuration. Example:

```
HOST_5='192.168.4.2 serial-pc'
```

Do not forget to increment `HOST_N` (Page ??)!

If the client PC is running Windows you have to configure the dial-up adapter for a PPP connection to the fli4l router.

If a linux client is used create a shell script on the client (i.e. /usr/local/bin/ppp-on):

```
#!/bin/sh  
dev='/dev/ttyS0'                # COM1, for COM2: ttyS1  
speed='38400'                  # speed  
options='defaultroute crtscts' # options  
myip='192.168.4.2'             # IP address client  
fli4lip='192.168.4.1'          # IP address fli4l router  
pppd $dev $speed $options $myip:$fli4lip &
```

In case of problems: `man pppd`

The fli4l router has to be used as the DNS server on the client if a connection to the Internet is desired. Add two lines to /etc/resolv.conf on the client: the domain used and the ethernet IP address of the fli4l router as name server.

Example:

```
search domain.de  
nameserver 192.168.1.4
```

“domain.de” res. “192.168.1.4” have to be changed to your needs. Important: The IP address has to be the one of fli4l’s ethernet card!

A so called [null modem cable](#) (Page ??) is used as the physical connection. See appendix for package base for pin wirings.

A (german) Howto for connecting a Windows client with serial PPP can be found at:

<http://www.fli4l.de/hilfe/howtos/basteleien/opt-ppp-howto/>

## **A. Appendix For Package PPP**

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