FBB Packet-radio BBS mini-HOWTO

Table of Contents

Table of Contents

FBB Packet-radio BBS mini-HOWTO

Miroslav "Misko" Skoric, YT7MPB, `skoric at eunet dot rs`

v1.49, 2010-07-18

This mini-HOWTO covers the installation and use of the most popular amateur packet-radio BBS server software "FBB". That software works under Linux, DOS and Windows operating systems. It serves as a bulletin board system (BBS), a mailbox for personal messages, a database for various texts, documents and binary files, a server for small useful calculations etc. Packet radio is a way of connecting computers via amateur radio stations.

10. How to access the "xfbbd" server from a DOS client?

11. How to communicate with LinFBB in Serbian?

12. How to make better ham radio rules?

13. Bibliography

14. Further information

15. Getting help

---

1. Introduction

I have been using FBB amateur radio software since early nineties. It was the time of DOS operating system, so most of us, system administrators (or, so called system operators - sysop's), used various packet radio *server* software for DOS. Versions of FBB packet radio BBS *server* software for DOS, today are known as "DosFBB".

I still administer one DosFBB database in the SRV (Amateur Radio Union of Vojvodina, a part of SRJ). It is DosFBB v7.00g23 that runs on a 486DX computer with 16 MB of RAM and Hercules b/w graphics. Since December 1999, it runs without any re-boot (excepting some power failures). Before that, it was a bit tricky to set up all memory management properly, in order to avoid "frozen" system. Although this server runs under DOS, its "radio clients" don't depend on that. In fact, users of that DosFBB might run their client software under DOS, Windows, Linux or any other operating system that offer amateur packet radio abilities.

I have also used DosFBB v5.15c on a 286/12 box at home. Five years ago, when I got better box, Pentium I at 166 MHz with 32 MB of RAM and VGA color graphics, I switched to a Windows version of FBB ("WinFBB"). Author of the software, a radio amateur from France, Jean-Paul F6FBB, has made many versions of WinFBB, including 16 bit variant for Windows 3.x and Windows 9x as well as 32 bit variant for

Windows NT. I have run both variants until now (at the moment it is 16 bit WinFBB v7.00g25 that runs great under Windows NT 4.0).

Update: In late 1999, I upgraded my system to Celeron 400 MHz, added more 64 MB of RAM and switched to bigger hard disk that will have enough room to install Linux and try LinFBB ...

Update: Since Spring 2001, I run WinFBB v7.00i (17 March 2001) under Windows 2000 Professional.

The main difference between DosFBB and WinFBB is that the second one offers you to do other jobs with your computer, while FBB is running as just any other application. Besides that, it is always nice to copy some text from another application (for example, from an Internet email) and to paste it into a packet radio message, or vice versa.

Update: In July 2001, I added more 128 MB of RAM so my home system is very confortable now.

Finally, you should be aware what I want to have here:

```
1. WinFBB when I run Windows.

2. LinFBB when I run Linux. It should be an
   Xwindow application that may be
   started/stopped similarly to WinFBB.
   That's why X11 LinFBB package is used.

3. LinFBB when I run Linux, but as a daemon
   that runs in the background. In addition,
   an interface for a local user (myself)
   is needed, as well as an interface to
   monitor the radio channel.

4. All three versions must be capable to
   share the same configuration files, i.e.
   to be able, for example, to begin a new
   session from the exact position where the
   other version has finished its own last
   session.

5. I am not an expert in Linux, so I am
   only able to install "factory-made"
   packages for Linux (just like to install
   self executing software packages under
   Windows). I mean of RPM packages. So, there
   are no source (re)compilations here at the
   moment, but in the future we will see  :-)
```

2. How to install X11 (Xwindow) version of LinFBB

- First of all, you should have running Linux with a GUI installed. I am fully satisfied with Gnome GUI but I suppose that KDE will be OK too (or any other GUI available).
- Download or copy LinFBB (the main ftp site is ftp.f6fbb.org but there are many mirror sites too). For example, if you get a file like

```
x700e_full.tgz
```

it means that it is X11 version 7.00e and it contains all you need in tgz archive to install the BBS. On the other hand, a name like

```
xd700g_full.tgz
```

means that it is not X11 but daemon version 7.00g and it is also complete to unpack. Further,

```
x700f01.tgz
```

and

```
x700g.tgz
```

are "upgrades" to any previous "full" package. For example, after I have upgraded to `x700g.tgz` I started to run X11 LinFBB 7.00g (04 August 1998). BTW, X11 versions are not maintained anymore, but I still run it here. It has some bugs but I like it.

- Copy the archive file in **/tmp** directory.
- You have to make a "base" directory where your FBB will be installed. For example you may type: **mkdir /usr/local/fbb** if you want FBB to be there. You have to be logged as 'root' or 'superuser' to install FBB.
- Then, you should locate yourself in that directory: **cd /usr/local/fbb**.
- Now, you should unpack the archive: **tar xvzf /tmp/x700b25.tgz** (<-- use the right name of the archive here).
- When you finished unpacking the archive, you may continue installing the software: **./install.sh** is the command for that. The setup will ask you for the 'base' directory where FBB will be installed. If you chose **/usr/local/fbb** again, you will be told that such directory already exists and all files will be overwritten. It is OK, so you should answer yes. If everything is fine, you should see on the screen that fbb system directories are created. At the beginning of that procedure, program will ask you for BBS's callsign, name of the city, QTH locator, your name etc. That details will become a part of **/usr/local/fbb/init.srv** file.
- After that, you MUST check this file **again** manually in order to fix some other details needed (because installation script does not fix all parts within that file).
- Well, so far - so good. After you have checked all configuration files, you may start the software: **./xfbb.sh** (<-- type this within an *xterm* or something similar). When you start your BBS for the first time, it will ask you to create some files it needs, so you should answer "yes" to the questions.

3. How to install LinFBB in addition to existing WinFBB

Notice: Folks, you see, at my place, I have a dual-boot system, consisting of Windows NT and Linux (each of them having their own partition(s) and file system). I wanted to have 'independent' operating systems that won't see each other. So I made two NT's partitions as NTFS partitions and rest of the space used Linux as ext2 & swap partitions. Well, at first I have installed WinFBB under NT and X11 LinFBB under Linux. Both of them worked, but there was a big "problem": I could not share their system files. You might say: So, what a big deal. But, my FBB's should serve as packet-radio forwarding stations (regardless of which one I boot at the moment), so it was really needed for new LinFBB to "know", for example, the position where WinFBB has stopped the mail exchange last time (and vice- versa, of course).

- Well, in order to allow both WinFBB under Windows NT and LinFBB under Linux to use the same system files, it is needed to put these files in a place that both operating systems are able to "see". So I do that by re-installing WinFBB onto a FAT (FAT16) partition that is recognized by NT and Linux too. The best way to do that is to install a "fresh" copy of WinFBB on a FAT partition and to copy complete "old" WinFBB from NTFS partition over the fresh installation (whenever you are asked to rewrite existing files, you should answer "yes").

- When that is finished, you should have a "clone" of the existing old WinFBB, but this time on the FAT partition that is visible from under Linux. Anyway, you should check if the "new" one installation is able to run properly as the "old" one.
- I could also recommend you to check the file tree of WinFBB in order to become more familiar with it. The file tree of LinFBB is a bit different so it is advisable to note various details here and there.
- Some files can't be used as they are under *both* operating systems (without some necessary changes). That's why some file names should be renamed (or, at least, you should make appropriate copies of some files):

```
        init.srv    ->  init_w.srv
        forward.sys ->  forw_w.sys
        port.sys    ->  port_w.sys
        protect.sys ->  prot_w.sys
```

  FBB is able to recognize and accept those renamed files.
- Make a backup of the actual WinFBB (I do that by copying the whole WinFBB file structure into the other Windows partition that *won't* be shared with Linux, like NTFS one). You'll never know when a catastrophe may happen, so as a result, you won't be able to start neither of the "old" WinFBB or the "new" LinFBB. As a precaution, the backup might be the easiest way to recover at least the old WinFBB for a while (until you configure your new LinFBB, OK?).
- Now, you should restart your machine and boot into Linux. Log on as 'root' or make 'su' from a user's account.
- Mount a shared FAT directory (where FBB files are): **mount -t vfat /dev/hda2 /mnt/win** (for example). If that works, later you may adopt that change within your **/etc/fstab** configuration.
- Copy LinFBB archive to **/tmp** directory.
- Position yourself to the 'base' directory: **cd /usr/local/fbb** (for example).
- Unpack the archive: **tar xvzf /tmp/filename**.
- Start the installation script **./install.sh** and, after asked for the 'base' installation directory, chose **/usr/local/fbb**. It doesn't matter if the program warns you that such directory already exists so existing files will be overwritten (by the way, if you choose a mounted directory shared with NT, many original WinFBB files, located there, would be over-written by LinFBB files, so after returning to Windows, WinFBB might not be as functional as before this installation).
- Copy **/usr/local/fbb** to **/mnt/win/fbb** but do *not* rewrite existing files with the new files having the same names.
- Copy **/mnt/win/fbb/init_w.srv** to **/mnt/win/fbb/init_l.srv** file.
- Edit **/mnt/win/fbb/init_l.srv** to what is needed for Linux. You may use the existing file **/mnt/win/fbb/init.srv** as an example.
- Copy newly edited **/mnt/win/fbb/init_l.srv** over the **/mnt/win/fbb/init.srv** (if you do not do that, maybe you wouldn't be able to start LinFBB using **./xfbb.sh**, like me at the first time).
- Copy **/mnt/win/fbb/system/port_w.sys** to **/mnt/win/fbb/system/port_l.sys** file.
- Edit **/mnt/win/fbb/system/port_l.sys** to what is needed for Linux and LinFBB. You may use the existing file **/mnt/win/fbb/system/port.sys** as an example.
- Edit **/mnt/win/fbb/xfbb.sh** in order to fix the right path.
- Ensure that you are in FBB's main directory: **cd /mnt/win/fbb** (for example).
- Start the script **./xfbb.sh** to run LinFBB. If everything is OK, your LinFBB under Linux should run with the *same* configuration as your "old" WinFBB under Windows. From this point, both FBB's should behave very similar (actually, I must admit that WinFBB has much better visual quality than X11 LinFBB, but probably the reasons for that you may find in Windows-vs.-Linux-GUI quality "battle field"). FYI, my actual WinFBB is v7.00g25 (05 January 2000) and X11 LinFBB is v7.00g (04

August 1998).

- Although this combination WinFBB/X11 LinFBB works fine, I have noticed some problems. For example, LinFBB was not able to use `amsat` forward_to_file routine (located in **/mnt/win/fbb/system/fwd** directory), because that file was composed like this (for example):

```
A AMSAT
*
P @
*
C D:\FBB\SYSTEM\SAT\AMSAT.TXT     <-- looks familiar to DOS/Windows only
*
G AMSAT
*
--------
```

On the other side, LinFBB's `amsat.sys` (located in **/etc/ax25/fbb/fwd** directory) has suggested something like this:

```
A AMSAT
*
P @
*
C /var/ax25/fbb/sat/amsat.txt     <-- looks familiar to Linux only
*
G AMSAT
*
--------
```

Well, then I copied LinFBB's `amsat.sys` into **/mnt/win/fbb/system/fwd** directory so it could become functional. As a result, I got *two* `amsat.txt` files, one of them for each of WinFBB/LinFBB, and of course, both files appeared on different locations: the first one was **/mnt/win/fbb/system/sat/amsat.txt** and it was filled by WinFBB; the other one was in **/var/ax25/fbb/sat/amsat.txt** and was filled by LinFBB. I didn't like it that way.

In order to have only *one* result, regardless of FBB version, the newly copied `amsat.sys` had to be slightly changed:

```
A AMSAT
*
P @
*
*C /var/ax25/fbb/sat/amsat.txt
C /mnt/win/fbb/system/sat/amsat.txt
*
G AMSAT
*
--------
```

As you can see now, when LinFBB is active, its `amsat.sys` will not forward into its "native" location of `amsat.txt`. Instead of that, it will go to the location of the WinFBB's `amsat.txt` and just add some new materials into it, OK?

Well now it's up to you to decide what to do with your growing `amsat.txt`. An old DosFBB manual says that the 'batch' file (I suppose, the old good `APPEL.BAT`) should be adopted in order for **SATUPDAT.EXE** can update *sat* tracking data and, after that, to erase AMSAT.TXT because it is not needed anymore. Well, I haven't found a way to manage that in both WinFBB and LinFBB. Actually, whenever I perform housekeeping from either of them, it seems that AMSAT.TXT remains intact. Happily, it doesn't grow too much, so it's not a big problem. Any suggestion here?

---

4. How to install Protus password utility

Notice: Well, I have been using Protus ***connection filters*** *for a long time now. At first, it was the version 3.1/1.2 for DosFBB515c and, later, version 3.3 for Dos/WinFBB700. I have found Protus as very useful utility because of its implementation of automated BBS-to-BBS forwarding protection, using MD2 algorithm. One of the reasons to cover Protus in this document is the fact that its author haven't made a manual in English yet. I keep trying to translate original manuals from Spanish into English, but it is a hard work. Any good 'Spanish-to-English' translator is welcomed to contact me: skoric at eunet dot rs*

Protus offers several interesting features:

- It can send a presentation message to all users, informing about possibility to make users' access more safe,
- It can send messages to users who have usual, non-restricted access, informing about utility's existence,
- It can send messages to users who have no valid access (before disconnecting them),
- It can send messages to new users who have connected the BBS for the first time, informing them about the password utility.
- It can send messages to users who have entered wrong password (before disconnecting them),
- It can inform sysop about almost everything related to users' connections (new user on the system, unsuccessful connections etc),
- Messages mentioned above could be translated into various languages and used similarly as various language files that FBB system use,
- Messages mentioned above could be different for different BBS ports,
- Protus could be activated/deactivated at various intervals of time using CRON.SYS system file,
- Passwords could be managed remotely, using an external server, developed by Jose EB5IVB,
- ...

Well, let's see what should be done in order to implement secure access to the FBB packet radio BBS, using Protus type of, so called, *c_filter*:

- Users of Dos/WinFBB versions of Protus already know that it is needed to create a new directory **\FBB\PROTUS** where several *.PRT files should be placed. In addition, the main C_FILT*.DLL files should be copied into **\FBB\BIN** directory, as well as a couple of "system", (i.e. config) *.PRT files that are going to be within **\FBB\SYSTEM** directory.
- After the sysop has copied all files into their proper locations, it is needed to make some configuration. The most important files are two "system" ones: `CONFIG.PRT` and `USERS.PRT` that should be carefully adopted to any particular situation. Other *.PRT files will work as they are in original, but they may be translated because they are originated in Spanish (those files are just the parts of information that are sent to users who connect to the BBS). For your information, I usually don't care much about, because my BBS's are so called "open systems". It means they work quite normal for *all* users in the same way as they worked *before* implementing Protus. Only a couple of callsigns have password installed and, when connecting, they know what they are doing, so, they don't

need any additional info. Your mileage may vary.

- So far - so good. After everything mentioned has been done, you have to restart your FBB in order for Protus utility to be activated. In all connections to your BBS (including console), you should see a line like this: **{PROTUS-4.0}** just after the well known line [FBB-7.00-AB1FHMRX$]. It only gives an information that Protus is active on the system. Users of your BBS who don't have their passwords, connect just normally as before. Users who's callsigns have password implemented, are prompted for password just after their connections.
- The author of Protus, Jesus EB5AGF, has made several working "modes" of its utility. It is possible for users to have various kinds of passwords: a fixed phrase (similar as those you are used to when connect to the Internet via telephone line, but this way the phrase can be masqueraded within the longer answer); a changeable answer to the 5 random numbers (just like usual FBB sysop's password); a mode that uses automatic answer from user's client packet programs; implementation of MD2 and MD5 algorithms; FBB-to-FBB automatic protection etc. FYI, my WinFBB is equipped with 16-bit Protus 4.0 (13 August 1999). There is also a 32-bit module of the same date that would be called from within 32-bit WinFBB (I haven't tested those 32-bit applications).
- Well, the situation regarding working location of Protus files under LinFBB is somewhat different. I have become familiar to the directory structure that DosFBB and WinFBB versions of Protus have been using, so I considered that it was enough to implement the same directory structure when I started the installation of Protus under LinFBB. It was wrong. After having pulled out the remaining hair, the things started to work, so, now I am going to tell you what to do.
- I have already told you that I have been running here both WinFBB under Windows NT and LinFBB under Linux (see also `Linux+WinNT mini-HOWTO` and `Lilo mini-HOWTO`). That means all Protus stuff has already been installed in a way WinFBB has required, except *Linux* executable of *c_filter* file. I put that one file into **/fbb/bin** directory and, after the next restart of LinFBB, I got the info mentioned above: {PROTUS-4.0}. But the password protection was not likely to work. I was told by the author to make a new directory **/var/ax25/fbb/protus** and put *.PRT files there. I *didn't move* files from **\FBB\PROTUS** but rather *copied* them into the new location, because I wanted Protus to continue working under WinFBB as before. The utility still didn't want to run, unless I *also* copied additional two *.PRT files from **\FBB\SYSTEM** to the same new location (**/var/ax25/fbb/protus**). After I did that, Protus became functional.
- Well, I suppose, the above info would be useful for those of you who intend to run *both* Windows and Linux FBB's on the same machine. For the majority of LinFBB-only users, it is just important to make **/var/ax25/fbb/protus** where *all* *.prt files should be placed. *Only* c_filter executable should go to **/fbb/bin** and that's it.
- About FBB-to-FBB protection: *both* partners have to install Protus. Password for the forwarding partner's callsign must be the same at *both* sides of the link. The versions of Protus don't need to be the same (neither the versions of FBB, neither the operating systems, HI!). Anyway, MD5 algorithm will only work if both parties have Protus 4.x and above (I still don't use that, but it is not a problem, because my two boxes, DosFBB-Protus3.3 and WinFBB/LinFBB-Protus4.0, make all things OK with MD2).
- One of the interesting features of Protus is to log unsuccessful connections. Due to the *different* locations of *.prt files here, I have separate logs for WinFBB and LinFBB "c_filtering". Those of you who are going to run only one operating system and appropriate version of FBB, will have *one* complete log of connection errors, users make when try to connect your BBS.

- As it was told earlier, if you implemented password protection for only *some* of your users (but not for all of them who connect normally) - your system is considered as the "open" one. It means that will be logged only unsuccessful tries to enter the system by "protected" callsigns. But, if you decided that your BBS can be accessed by *only* those callsigns who have Protus password, that means your system is the "closed" one. Then, there is no way a user could enter your FBB unless its callsign has given a password within your Protus. Any unauthorized try to connect your BBS is also logged.

- In addition, you may decide to have a "guest" access or a "read-only" as *default* for some BBS's access ports and/or for users who enter the wrong password. Many combinations are possible. You could even password protect your own FBB console!

- To finish with this topic for now, just to inform you that my X11 LinFBB is equipped with Protus v4.1b7 (15 February 2000). It has some minor bugs, for example, it logs incoming connections with a SSID of -48 if a user doesn't have a SSID at all (of course, in such case a SSID of -0 would be expected).

5. How to install "xfbbd", a daemon version of LinFBB

*Notice: You see, folks, that I keep trying to get as many as possible versions of this great software (Jean-Paul, F6FBB, must be very proud after reading these words now). What I think when mention "as many as possible versions" means that we have learned how to get both WinFBB and X11 LinFBB on the same computer. But, that's not all. There is a variety of daemon versions of LinFBB. In this section we are going to discuss how to *add* a daemon LinFBB to the existing two: X11 LinFBB and WinFBB!*

- Well, many amateurs have suggested me to install a couple of packages that weren't look to me as really requested for LinFBB daemon to work. Anyway, I installed those packages *before* the installation of LinFBB itself:

```
libax25.rpm
ax25apps.rpm
ax25tool.rpm
```

- Now it is the right time to install `fbbsrv.rpm` package. The archive was composed to make its own directories, as "base" directories. The last new version to start with, that I have managed to find as a `.rpm` package, was 7.01f Release 4 (09 December 1999).
- A file called **fbb.conf**, serving as the replacement for **init.srv**, is placed in the location: **/etc/ax25/fbb.conf**
- *Unless* you are going to install daemon-*only* system, you should make a backup of the following existing files:

```
dirmes.sys
etat.sys
heard.bin
inf.sys
statis.dat
tpstat.sys
```

- Now you have to edit **/etc/ax25/fbb.conf** and change some paths in case you already have X11 LinFBB installed on a *different* path. Here you have some examples that cover my particular situation...
- Directory of data files, instead of /var/ax25/fbb, should be **/mnt/win/fbb/system**
- Directory of config files, instead of /etc/ax25/fbb, should be **/mnt/win/fbb/system**
- Directory of message files, instead of /var/ax25/fbb/mail, should be **/mnt/win/fbb/mail**
- Directory of compressed files, instead of /var/ax25/fbb/binmail, should be **/mnt/win/fbb/binmail**

- Directory of users, instead of .../home/fbbdos/..., should be .../**mnt/win/fbb/users**... (case you don't mind that both your WinFBB and LinFBB users handle the same location for users' files)
- Directory of YAPP files, instead of /home/fbbdos/yapp, should be **/mnt/win/fbb/users/yapp** (the same reason as above)
- Directory of documentation files, instead of /var/ax25/fbb/docs, should be **/mnt/win/fbb/docs**
- Directory of pg programs, instead of /usr/local/pg, should be **/mnt/win/fbb/pg**
- Path and filename for import file, instead of C:\FBB\MAIL.IN should be **/mnt/win/fbb/mail.in**
- Now you have to edit **/usr/sbin/xfbb.sh** and change some paths in case you already have running X11 version of LinFBB on a *different* path. Here you have an example that cover my particular situation...
- Base directory of XFBB software, instead of /var/ax25/fbb, should be **/mnt/win/fbb**
- So far - so good. Now it is the time to start LinFBB daemon. The command for that is in the location: **/usr/sbin/xfbb.sh** and it may be executed within an *xterm*. If everything is OK, you should get several system messages on your screen, ending with something like:

```
        xfbbC/X server running ...
        xfbbd ready and running ...
```
- Well, daemon itself can't be used to access the BBS so it is needed to activate a *client* that is **/usr/sbin/xfbbC**. It has a couple of parameters (a callsign/password pairs that are stored in **/fbb/passwd.sys**). Note that xfbbC can also be activated within another *xterm*.
- If you are like me, you would like to activate one more *xterm* with xfbbC in a way to monitor your radio frequency. If you have enough room on your screen, you may place all three *xterm* windows side by side.
- When you finish your xfbbC console session, it is suitable to use the same *xterm* to eventually stop the daemon. First of all, with the command **ps ax** you should locate PIDs of xfbb.sh shell and daemon itself, that you may **kill** after that.

---

6. How to install an *upgrade* to a daemon version of LinFBB

6.1 LinFBB v7.02g

Notice: Well, the main trouble I have discovered with 7.01f daemon was the absence of Protus c_filter protection. As I told you before, Protus is a "third-party" product, so it might have some problems with the compatibility to LinFBB itself. Anyway, it is also possible that a daemon version of LinFBB has some special requirements over some "third-party" software.

- I also noticed that my version of Protus was *newer* than the version of daemon LinFBB I had at first. Besides that, some hams, including F6FBB himself, have suggested me to upgrade LinFBB. I have also found a "problem" that I am still new in compiling Linux software, so, I'd rather look for pre-compiled packages for easy installation.
- Jose, HI8GN, has offered daemon LinFBB v7.02g as a `.rpm` package (18 September 2000). I got it from his site: http://hi8gn.dynip.com/indice.html. But, when I tried to install it *over* the previous version 7.01f, it complained about some existing LinFBB files.
- Then I had to uninstall the old package, after what some config files remained in their locations, but with new `.rpmsave` extensions. It was nice, so I could use them later to update my new-installed config files.
- BTW, the installation of Jose's package was performed without problems, but the new daemon was not likely to run as I expected, although I tried to configure it as best as I could. Not quite sure, but it looked to me that F6FBB is likely to implement some changes not only to the main executables but to shell files too. So, I have decided to save copies of these new `xfbbd` and `xfbbC` executables from 7.02g package (I have made it with adding extensions like .702 to the files). After that, I *uninstalled*

the rest of that 7.02 `.rpm`, in order to install the previous version of LinFBB once again - the version that I was satisfied with.

- So far - so good. The "old" 7.01f version was installed again and tested one more time to be sure it was OK. Then, I just copied the previously saved executables from the new package, over the "old" executables. In a couple of minutes, the new daemon LinFBB v7.02g has come in place and function. Comments...?
- Well, the new daemon is likely to check for some more directories than the older version (mostly related to `7plus` operations). Next, its `xfbbC` console client looks better than the previous version. But, I still miss graphical `xfbbX` client, that I have found not able to become activated. I hope it will be fixed soon. Finally, Protus `c_filter` utility is active too.
- An interesting question might be: is that now a really upgraded LinFBB daemon or not? Actually, I haven't changed the "old" script `xfbbd.sh` with the new one, because during the first tests with the new 7.02 I was getting lots of error messages. Looks that the directory structure was a bit complicated for me to set properly within the new version of `xfbbd.sh`. After I returned to `xfbbd.sh` from 7.01 package, the BBS finally started to be run, though without some functions like over-night maintaining (that one problem I solve in a way to boot the BBS as WinFBB under Windows NT where that task is OK). In addition, there are still some mysterious messages telling that `m_filter` has not been found or something like that. The next tasks are to solve these issues.

6.2 LinFBB v7.03

Notice: As I have said in the previous section, I haven't found an easy way to upgrade FBB's (its main executables), without temporary uninstalling an older version, then to install the new version - in order to get new executables. After that is done, a reverse procedure must be put in place.

- Well, it was needed to get 7.03 package (09 December 2000) as an `.rpm` package from www.f6fbb.org/versions.html, that was suggested by Jean-Paul, F6FBB. Anyway, soon after there appeared several mirror sites, offering 7.03 too.
- If you use *GnomeRPM*, it is easy to uninstall your actual LinFBB (If you just try to install new `.rpm` over the existing LinFBB you will get some error messages complaining that you already have FBB installed on the computer). Anyway, after the uninstallation, there you will find some config files as `.rpmsave` files, so you could use them later again.
- Installation of 7.03 package will give you new executables in **/usr/sbin** directory. Those new executables should be temporary given extensions like `.703` (for example).
- So far - so good. Now you should *uninstall* the 7.03 package (of course, `.703` files won't be unistalled automatically). Uninstall? Why? You will find out soon, read on ...
- Once again, you should *install* the *last* one version of LinFBB daemon, that works OK with its own `xfbb.sh` (in my case, that is 7.01f).
- For sure, many of you might find it odd, but now it is the right time for the executables from **/usr/sbin** (I mean of all fbb executables, except those who were renamed to `.703`) to get their new extensions (in my case, that is `.701`).
- Well, after that is performed, `.703` files should *lose* their previously attached extensions, in order to become usable.
- Folks, on that point I usually hold my breath, **cd** to **/usr/sbin** and type: **xfbb.sh** following with an Enter. If everything is fine, several lines should scroll on the screen, ending with something like:

```
xfbbC/X server running ...
xfbbd ready and running ...
```

- If you don't get something similar on your *xterm* 'window' (or on other appropriate terminal utility), you're out of luck, so you might go through the procedure once again in order to be sure you did all what was needed to be done :->

- **/usr/sbin/xfbbC** is the easiest way to check if your new 7.03 is in the game or not. When I mention xfbbC it is good to let you know, that I kept living in a belief that xfbbC is also useful for regular telnet users (who are also supposed to 'connect' to the BBS via the same computer's console, where LinFBB is running from). But, I have discovered that my users, who were *not* declared as sysops, are allowed to read all messages (including all private messages), as well as to have some other sysop's abilities. I did think it was a matter of probably wrong declared security flags. But, it was not.
- Recently, I was informed that **xfbbC** is suitable mostly for sysops, so the other users (who might also have access to the local keyboard) should rather try something less dangerous, like this:

```
telnet localhost 6300
```

- ... where 'localhost' and '6300' may vary from BBS to BBS. I was pleasantly surprised when discovered that **telnet** is much more suitable for ordinary BBS users than *sysops'* client **xfbbC**.
- Folks, I also think of writing a chapter about FBB's system configuration. Until something like that appears in this howto, you should know that all of those callsigns who are going to use **xfbbC** have to be added into your `passwd.sys` file. In addition, all of these folks who are going to **telnet** the BBS, have to be declared as users with the 'M' flag (modem users). It is up to your security precautions, if either of them would eventually have *'root'* capabilities to that one Linux machine itself.
- My next task is to use an old i286/12 MHz box, having only 1 MB of RAM, running DOS 5.0, as a 'telnet client' computer. That box has a network card so I would like to 'connect' to the BBS from that one 'telnet client' box. If that succeeds, it would be a good preparation for installing another LinFBB (in the local school club), where several old 286 computers will be also available. It would be nice to offer more than one student-amateur the opportunity to 'connect' the BBS simultaneously, using a bunch of vintage 'telnet client' DOS computers.

6.3 LinFBB v7.04

Notice: Maybe I have already explained that I use Red Hat 6.2 at home. That's why I usually look for `.rpm` *packages that have been made for that particular Linux distribution, but not only that. I have also tried to use Red Hat 7.1 but it seemed not to support an older Xwindow application, LinFBB 7.00g (04 August 1998). When I noticed that issue, I returned back to Red Hat 6.2.*

- Well, I started by downloading the package `xfbb-7.04-2.i386.rpm` (07 August 2001) from www.f6fbb.org/versions.html
- Folks, this time I finally decided to install version 7.04 as a completely "fresh" installation, i.e. without some parts of any previously used "daemon" on the disk. It means that I have uninstalled the last daemon version I was using before, and, in addition, I also removed the old executables. Of course, before the uninstalation, I made the backup of some config files that are not version depending (like `/etc/fbb.conf`), in order to avoid editing the same "defaults" once again and again :-)
- The setup procedure has reported some dependency issues. I didn't want to get bored with them so I repeated the installation once again with "--force" and "--nodeps" options.
- So far - so good. Then, I replaced a couple of "default" files with the *saved* ones. After that being accomplished, I mounted a FAT partition with WinFBB's system files, made a pray and started LinFBB's daemon. It was also an interesting new experience to try HI8GN's script **/usr/sbin/fbb start** (activated in an *xterm*) to start the server. Although there were no usual lines:

```
xfbbC/X server running ...
xfbbd ready and running ...
```

  on my screen, TNC's *PTT* lamp confirmed that a *beacon* was really transmitted.
- Then I wanted to try HI8GN's script **/usr/sbin/monitor** to see what's going on the frequency. Although I got something like:

```
Connecting localhost ... Ok
Authentication in progress ... Ok
Monitoring channel 0 ...
```

there appeared no traffic on the screen. In order to really monitor the channel, I had to start another *xterm* and type:

```
telnet localhost 6300
```

Bingo! From the usual FBB's prompt I entered the gateway and typed the familiar "M" ("Monitor") command. Interestingly, as soon as I "telnet-ed" to the BBS, **/usr/sbin/monitor** window, mentioned above, started to copy whatever was going on the telnet *xterm* as long as that telnet session was closed. I was in doubt if that was OK or not, because there I expected to see the traffic from the radio channel - regardless being connected to the system or not. Any suggestion here?

- Well, then I wanted to use **/usr/sbin/bbs**, in order to connect to the client's (or better to say: sysop's) console (*xfbbC*). Looks that there was a line in HI8GN's script:

```
xfbbC -c -f -h localhost -i [callsign] -w [password]
```

with missing ./ (dot slash) before xfbbC, so the script was not likely to be executed. Instead of that it reported that command couldn't be found. Anyway, *xfbbC v3.01* itself appeared to work nice. It is still possible to monitor the working channel too (using the "M" command from within the gateway), but this is not a valuable solution because while "Monitor ON", it is not confortable to do anything else within the gateway. Once again, solutions are welcomed!

- Although the active *xfbbC* session can be easily terminated using "B" ("Bye") command, a fooled **/usr/sbin/monitor** can not. The user has to find its *process number*, (PID), using **ps ax** command and then kill that process.
- At the end of the game, daemon itself should be stopped. HI8GN's script **/usr/sbin/fbb stop** returns:

```
Shutting down xfbbd:          [OK]
```

but **/usr/sbin/fbb status** reports:

```
Checking, the FBB daemon
xfbbd (pid) is running...
```

Looks that **/usr/sbin/fbb stop** does not terminate daemon *every* time the command is executed, but re-start it (the only difference is the new PID of the process and **ps ax** can show that new PID). So, there is a question why it returns that [OK] when it is obvious that daemon is not stopped, but rather re-started.

- Well, if you are like me, you may also want to experiment with some special sysop's commands, from within an *xfbbC* session. For example, "/R" command ("Re-boot PC") shuts down *xfbbC* and **/usr/sbin/fbb status** reports:

```
Checking, the FBB daemon
xfbbd dead but subsys locked
```

while "/A" command ("Stop BBS") returns:

```
Stop-request accepted, no connection.
```

before shutting down *xfbbC* client itself.

Further attempts to re-start either *xfbbC* client or *xfbbd* server (using **/usr/sbin/fbb start**) are not successful, unless an additional **/usr/sbin/fbb stop** is executed. The result is:

```
Shutting down xfbbd:          [FAILED]
```

Now another **/usr/sbin/fbb status** reports:

```
Checking, the FBB daemon
xfbbd is stopped
```

so finally, daemon might be re-started again. Here it is also a mystery why it returns that [FAILED] when it is obvious that daemon is really stopped (maybe it is a "failure" when we try to stop the same thing *twice*).

There are some other commands: "/K" (Re-boot BBS with housekeeping), "/M" (Re-boot BBS immediately) and "/L" (Re-boot BBS, waiting users to disconnect) - all of them with slight different behavior. Anyway, those three commands have something in common: they all re-start the daemon (with different PIDs, of course).

- Finally, what I would like to have is to manage housekeeping and other maintaining tasks. Until now, that is not accomplished. I suppose that I should make some more fine customization in system paths. Any suggestion about is welcomed.

---

7. How to use LinFBB's "xfbbX", a GUI client for Linux

2002-10-20

Well, soon after the installation of LinFBB v7.04 *.rpm* package, I noticed a new "kid on the block", i.e. a new item within the Start menu (under Gnome environment). That was a "HamRadio" group, having several "Xfbb version 7.04" sub-items and one of them was "xfbbd X Client".

It seemed that a mouse *click* on that "xfbbd X Client" icon was not likely to return any response, although *xfbbd* daemon has been successfully running *before* invoking the client. That's why I have been asking for help (related to that issue) from other LinFBB users, but it seemed there was no one capable to solve that problem. Anyway, it looks to me that there is a "dead" link from this "xfbbd X Client" icon to an existing executable.

Trying to find a solution, the other day I was browsing the **/usr/sbin** directory. I have noticed something that I have already seen for several times. That was **xfbbX** file. Well, I am sure that I tried to use this *executable* earlier, but without much success. This time, I have entered the full path, like this:

```
/usr/sbin/xfbbX
```

and, finally, the GUI client appeared on the screen.

So far - so good. Soon after, I realized that 'Monitoring' window was capable to monitor the actual traffic on the radio frequency, but not only that. Headers of all packets appear in green and the actual information is in blue, so it is easy to distinguish what is the header and what is the text info (comparing to my old X11 LinFBB application where everything came in black). What I could describe as a disadvantage of the 'Monitoring' window, is that the scroll bar does not give you much of the previous, already *scrolled* traffic.

The 'All channels' screen was even better, so the system user correspondents' traffic appeared in green, the local user's traffic was in black and the port information was in yellow. Unfortunately, there's no easy way (if any) to change colors (and that's the standard feature in WinFBB) for both 'Monitoring' and 'All channels' windows. Maybe I haven't managed yet to find a switch for that, so any useful info about is appreciated.

What I have also found a bit annoying, was that both windows mentioned above, appear not arranged side-by-side, a form that would be more suitable. Besides that, the third window, 'Console', has to be activated with another mouse click (instead of being activated automatically with the other two windows). Actually, the whole thing of *xfbbX* client seems to be primarily useful for sysops looking only for BBS's command line, in order to execute some server's commands etc. That's why I have found a bit strange why the console window must be activated separately (OK, I know that's the same with WinFBB's windows, but why not to add some additional feature?)

Anyway, the 'Console' connection window has almost the same functionality as WinFBB's 'Console' window. Here I think of the commands given at the BBS's command prompt, because they are invoked from the usual language *.TXT files.

But, the big disadvantage of today's version of *xfbbX* client, I've found here, is the absence of several useful icons, that I was very fond of within the WinFBB's user interface. For example, there are no icons for pending mail, users information, disconnect a user, edit a message text or a header etc. It looks to me that *xfbbX* developers are not likely to offer the full comfort that we have within WinFBB's GUI. It makes me wonder why? There are lots of commands that can not be easily activated without the proper icons. It drives me crazy whenever I have to re-boot to Windows to start WinFBB, in order to perform some simple tasks mentioned, using the mouse.

Besides that, there is no way to activate that nice message editor screen, very useful in WinFBB (also existed in an old Xwindow LinFBB application v7.00g from 1998!) The same goes for replying a message, where a sender does not get the text of a message to be replied to, within the new message body. In short, I don't like absence of all those earlier implemented, but now abandoned features.

Well, I can't imagine what Jean-Paul, F6FBB, and other developers would do in the future, but I am not satisfied with the idea to only keep further development of LinFBB server side, but, in the same time, to abandon the development of LinFBB's graphical client side. And not only that: It looks that MS Windows client for LinFBB server, *xfbbW* has been reported to be much more functional that described xfbbX, while, in the same time, WinFBB server development has been also stopped. A bit confusing situation, isn't it?

Some amateurs think that it is just a result of "global" IT situation: Linux (as well as other Unix-type platforms) is better suited for servers, but Windows is better for clients. If so, it looks that LinFBB packet-radio system operators, "sysop's", seem to be forced to run at least two computers, in order to get the same functionality they always had with WinFBB. I'd rather suggest to Jean-Paul, F6FBB, and other developers to transfer all known WinFBB's GUI features to *xfbbX* GUI environment, in order to avoid using two computers.

2002-10-30

A couple of paragraphs ago, I said that "xfbbd X Client" icon didn't work under Gnome environment. It did make me wonder if it would work under KDE graphical user interface. So, this time I started KDE (and I did it as "root" so, in addition, I also got a mailbox icon on the desktop, named "fbb X11". When I located the mouse pointer over that icon, there appeared some more description: "F6FBB bbs Server for Packet Radio").

Well, when I tried to *click* on that icon, I got a KFM Warning message box explaining that program **/root/.xfbbX** could not be executed. Fortunately, a "right click" on the icon allowed to enter file's Properties. The Execute card gave me a possibility to change the path for a program to be used. So, I did some browsing and located the new path: **/usr/sbin/xfbbX**. After that, another *click* resulted in running the GUI client.

Interestingly, there is some slight difference between *xfbbX* appearance under KDE and Gnome. Actually, each KDE's *xfbbX* window has "FBB" logo in the upper left corner (Gnome's windows haven't that). That may indicate that *xfbbX* client was produced primarily for KDE environment. Besides that, it seems that other features are almost the same, regardless being within KDE or Gnome environment.

On the other side, the already mentioned "xfbbd X Client" item (within the Start menu, under the "HamRadio" group), still does not work. I suppose that there should also be some modifications, related to program executable paths, but I do not know how to manage that. Anyway, it does not matter because *xfbbX* is running here this or that way.

2003-06-30

A recent email from Jose, HI8GN, related to the xfbbX GUI client, about the RPM package:

"The reason of the why not the xfbbd X Client didn't give you any answer is for several causes. 1) if the xfbbd daemon is not running the xfbbd X client won't run. 2) if the xfbbd is dead in its process. 3) if the xfbbd was not shutoff correctly, but delete the xfbbd lock file as this:

. /etc/init.d/rc.fbb stop or service rc.fbb stop, and then it was run and didn't create the xfbbd lock file, the shell script looks for the existence the /var/lock/subsys/xfbbd or /var/lock/subsys/xfbbX lock file and 4) if the xfbb X11 Server it is running it create a xfbbX lock file by that the xfbbd X client won't neither run

the same thing makes the X11 Client the one it verifies that the xfbbd is not running

if you make a click on the Icon that says fbb X11 Client and it doesn't run it is because the one is seeing that there is a process of the xfbbd running like as daemon. the script rc.fbb I have also modified it so that it can not be executed twice.

if exist xfbbX lock file the xfbbd X client won't run if exist xfbbd lock file the fbb X11 won't run.

Lastly if you execute the command fbb in the console or in xterminal in the desktop, you will see what I mean that simple."

Thanks Jose!

---

8. How to use LinFBB's "xfbbW", a GUI client for Windows

2002-11-17

Notice: Well, folks, I couldn't try to install and use LinFBB client for Windows, because I have not had a second computer for that purpose. The only way to check how this client works, was to borrow a laptop machine and give it a try.

The first task was to link that Windows laptop to a Linux desktop. I had some difficulties with the network card on the desktop box, because it seemed not to be likely to start the appropriate **eth0** interface. I'll give you some more details about the equipment here: Linux is Red Hat 6.2 and my ISA network card has UMC UM9008 chip. Long ago, I used some utilities that should "recognize" ISA cards (if I remember their names, that were isapnptools, pnpdump etc).

What I do know, is that such tools should have add some new lines into the existing files, like **/etc/conf.modules** or, to create some new files, like **/etc/isapnp***. Well, I have forgotten what exactly should be done, so I went to look for the right tools. The one that was looking suitable was **/sbin/isapnp**. Although I got its response on the screen, telling that the UM9008 chip was recognized, there was nothing added to the system files, nor new files seemed to be created.

What I also tried to use, was the old good *Linuxconf* tool, that was already installed per default within RH 6.2 Linux. I found the right place to add the information related to NIC's IRQ and I/O address. There I seemed to make a little mistake, so I put the value of *220* (for the I/O address), instead of *0x220* that would better fit. The result was as one may expect: the interface **eth0** continued to report that a *ne* module had not found a card at that one address. Then I checked the actual I/O address the card uses under Windows OS (was the same) and tried to fix the parameters (Thanks goes to a UK ham who advised me to have to let Linux know the proper IRQ and I/O addresses).

Interestingly, *Linuxconf* added a couple of new lines into **/etc/conf.modules** too. In short, the next time during the system boot, the interface **eth0** reported a green *[OK]*, so I could establish the link. So far - so good.

The next task was to download the client package from the FBB's main site. I did it from the *"Newest version"* web page and the number of the version was 1.12 (it seems that was not a pretty much new version, or maybe the content on that *"newest"* page has not been updated recently - another task for Jean-Paul?). Anyway, I installed it without any problem, configured its part related to the LinFBB server it was about to access, changed the console font to my favorite one (Tahoma) and started the utility.

At the first sight, the client looked great, because Linux clients still prefer so small letters, that are hard to read (compared to characters on a Windows screen). Now I tried the most used commands like List, Read, Send Reply etc. All of them worked great. What I have found a bit strange, was that the *message justification* did not work in its message editor window. You see, I like my messages to be justified on both sides. I hope a solution for that problem will be found soon.

Another issue with *xfbbW* client is that seems not to allow a multiple click onto more than one BBS callsign within *pending forward* list, comparing to WinFBB's behavior. You know, I am not very fond of opening the same *pending forward* window repeatedly again and again, in order to start (or to stop) more than one forwarding action.

In general, I like *xfbbW* client. I hope to install some newer version(s) soon, and I hope some of its features will be upgraded and some new ones will be added in the future. What I would also like to have, is to activate the maintenance of the BBS (a "housekeeping" task) from that client's menu. Another thing I miss at the moment, is the absence of the *xfbbW*'s help system. I mean of a *real* Windows help, because there's not much use of a *Help* menu, having only *Copyright* and *About* information :-))

---

9. How to compile LinFBB's *executable* files

9.1 fbbsrc.704h (using Red Hat 7.1)

2003-01-01

Notice: Until recently, I preferred to download "factory-made" executables in RPM format (something like ZIP in MS Windows world). After getting a RPM package, a click on it activates the program that unpack and install its content. Well, it is great whenever your RPM has been "manufactured" for the very similar distribution of Linux you have. If not ...

- Well, I have already had the package `xfbb-7.04-2.i386.rpm` (07 August 2001), that was running OK under RH 6.2 distro. And not only that. Its "packer", Jose HI8GN, has explained that this package was actually compiled and linked with utilities that came with RH 6.2 - so under that distribution should be no problems at all.
- One day I finally decided to abandon another 4-5 year old version of an X11 LinFBB *application* that I knew it would not run under Red Hat Linux newer than 6.2 distribution. I decided to stay with LinFBB's daemon only, so it was also the right time to upgrade the Linux system itself. Another handy installation that I had, was RH 7.1 and I used it. After finishing that task, I rushed to re-install the RPM package mentioned above (just to test if it would eventually work), but as expected it didn't want to run.
- I had no choice but to browse web sites in order to find a RPM package that would fit my RH 7.1 distribution. Unfortunately, it looked that there was no one recompiled LinFBB RPM for 7.1 RedHat version. The only solution was to try with *tarballs*. So, what I have downloaded from www.f6fbb.org/versions.html, was `xd704h-src.tgz` archive.
- So far - so good. Well, folks, I am not very good of "deepest" secrets of Linux, so I was not sure where might be the best place to unpack the archive. According the *readme* file, it might be a "fbbsrc" directory, so I considered that **/usr/src** would be the best location to copy archive's **fbbsrc.704h** directory tree.
- Well, the **fbbsrc.704h** directory consists of 12 files and 7 subdirectories, one of which is **src** subdirectory. As the *readme* suggested a user to "goto fbbsrc/src" directory, I concluded that **/usr/src/fbbsrc.704h/src** was the right place.
- The *readme* also suggested to "update the variables" at the beginning of *Makefile* files, but I did not do that because I was not sure what exactly should be put in there. So I have just left the file(s) intact.
- The next task was to run *make* command from the shell and it took half a minute to be finished. The results were several *xfbb* executable files that I quickly moved to **/usr/sbin** directory. BTW, some people rather suggest to run *make install* (instead of *make*), in order to avoid multiple copying of compiled executables, but I found that way as not functional.
- Soon after, I tried to activate **xfbbd** - the new LinFBB's *daemon* and it seemed to work without visible difficulties. Using a home LAN including a Windows laptop, I also started **fbbW** - a LinFBB Windows client. It recognized the *daemon* in a second and I've only noticed that there was no Protus password utility running.
- According the *readme*, the next task should be to "compile the xfbbC client". That operation should be done from a place called "fbbsrc/client" but the only available directory under **/usr/src/fbbsrc.704h/src** was **X11**.
- After clicking on its icon, I recognized the second one file named *Makefile* (they have mentioned "updating" of *both* Makefile files, so I hoped to reach the proper place once again, regardless of two unfamiliar paths). Besides that, they have also suggested to use "at least the version 2.1.37b of ax25-utils" and I found *not* to have something like that installed (in the case they have possibly meant of a *suit* of libax25, ax25apps and ax25tool - than it should be OK). Anyway, then I activated *make* command from the shell one more time and the result was in getting *xfbbC* executable.
- As usual, **xfbbC** client is to be invoked from within an *xterm* (or similar) command line environment. It also seemed that it was fully functional. So far - so good.
- The next issue was to "compile the xfbbX client", but this time a user was requested to have a version of Motif installed. Well, what I already knew was that I haven't had any Motif software in the box, but a couple of Lesstif RPM packages were somewhere around. I installed them using `--force` and `--nodeps` options in order to avoid various *dependency* 'obstacles'. In sum, Lestiff stuff has come to

its place on the hard disk.

- This one time, I did make some "updates" related to *Makefile* paths and tried to run *make* command from the shell (for the 3rd time now). At the first sight, it seemed that I got no answer, because there appeared neither **xfbbX** nor **xfbbX_cl** executables. In order to "make" missing files, I just copied the appropriate executables from an earlier LinFBB version (which I backup-ed before).
- Finally, I managed to activate **xfbbX** client without visible problems, although I knew it was not an up-to-date version (compared to the *daemon* itself). Regardless of that detail, the GUI client worked properly.
- As I just mentioned, I also noticed that the first console connection was without familiar **{PROTUS-4.1b7}** designation (that means there was no *c_filter* utility running). So, I had to check and double-check all the paths and system directories, described in the Protus section of this mini-HOWTO. At the first sight, it looked to me that everything was fine, but the utility was not likely to start. Finally, I copied its main executable into yet another system location: **/usr/lib/fbb/filter**, re-started the system once again and Protus returned back to its function.
- That was all. I am satisfied with what I have done for the first time. What I have to do in the future, will be to check if the procedure described in this section was the right one, although most of the BBS's main features seemed to be active (just like as if they were running under RH 6.2 distribution using LinFBB packages in RPM format mentioned earlier). The only "mystery" was how to activate some system administering tasks: maintenance (a "housekeeping"), get user's data and other tasks easily accessed from under WinFBB main console (for example). Until now I haven't solved that, but that is not a real problem because I can also run WinFBB whenever my Windows is active, and from there I can perform sysop's tasks, using a mouse click or like.

9.2 fbbsrc.704j (using Red Hat 7.1)

2004-01-03

Notice: The other day I tried to upgrade my Red Hat 7.1 distribution to Red Hat 9.0 - in order to get more up-to-date system, being also capable to be upgraded from its original Netscape 4.76 browser to Netscape 7.1 (In fact, the more newer Netscape I need for other purposes - not related to FBB stuff at all - but I have not succeeded to perform a kind of a 'browser-only' upgrade (In fact, Netscape 7.1 needs newer Glibc and some other things not easily being upgraded within under Red Hat 7.1). That's why I decided to upgrade the complete Linux system - i.e. not just reinstalling it 'from scratch'. The reason for that was I wanted to preserve my old Netscape Messenger email directory tree etc). So, at first, I made cca. 450 MB of free space on my / partition, hoping that would be enough to upgrade. But, RH 9.0's setup asked for even more 400 MB - that I couldn't made. Then I tried to make a 'fresh' installation of RH 9.0 and it also looked that I had better supply a larger hard disk (besides that, it seemed that RH 9.0 performed a bit slower on my system than the old RH 7.1). Finally, I made a decision to re-install RH 7.1 again.

After I did it, one of the first tasks to do was to install LinFBB. I took some browsing in order to find something newer than that **fbbsrc.704h** and I've got **fbbsrc.704j** *tarball* from ftp://www.f6fbb.org/pub/f6fbb/distrib/linux/src

- At first, I extracted *.tgz* package to the **/usr/src** directory. **fbbsrc.704j** consists of 7 subdirs and 12 files. According to its *readme*, at the beginning I should 'goto fbbsrc/src directory' so I went to **/usr/src/fbbsrc.704j/src**
- The *readme* also suggested to "update the variables" at the beginning of *Makefile* files, but I just left the file(s) intact.
- The next task was to run *make* command from the shell and it took almost two minutes to be finished. The result was new *xfbb* executables (clr_user, epurmess, epurwp, fbbgetconf, maintinf, reqdir, xfbbC

and xfbbd) that I quickly moved to **/usr/sbin** directory.
- Then I copied **fbb.conf** (previously backup-ed) as well as other config stuff that should go to **/etc/ax25/fbb** directory. I have *not* created new directories LinFBB should use as a 'normal' Linux-only BBS (a 'configuration tree', a 'utilities tree' and a 'data tree' - all of which suggested by /usr/src/fbbsrc.704j/FBBTREE file. If I haven't copied my backup-ed **fbb.conf** (that, in turn, has been configured to share config files with my WinFBB on a spare FAT16 partition) and if I wanted to activate LinFBB's daemon *before* copying my particular **fbb.conf** - then I had to create those FBB-trees. In opposite, LinFBB couldn't run.
- Soon after, I tried to activate LinFBB's *daemon* and it seemed to work without visible difficulties (using a temporary home LAN with a laptop, I performed **telnet xfbbd_IP_address 6300**, from Windows' utility Command Prompt. It recognized the *daemon* in a second and I've only noticed that there was no Protus password utility running). The latter I solved by copying /var/ax25/fbb/protus/c_filter file to a location /usr/lib/fbb/filter and re-starting LinFBB. To make more tests, I have also installed **xfbbW** (Windows client for LinFBB). It also worked fine.
- According the *readme*, the next task should be to "compile the xfbbX client". That operation is to be performed from a place called "fbbsrc/client" but the only sub-directory available under **/usr/src/fbbsrc.704j/src** was **X11** subdir. I went there, but *before* trying to activate **make** again, I also installed a couple of **LessTif** RPM packages of version 0.93.18-1 (lesstif, lesstif-mwm, lesstif-devel and lesstif- clients). In fact, I haven't had a version of Motif to be installed.
- Once again, I did not make "updates" related to *Makefile* paths and just tried to run *make* from the shell (for the 2nd time now). In a half a minute, I got two new executables: **xfbb** and **xfbbX_cl**. I also copied them to **/usr/sbin** directory, accompanied with **xfbbX** shell script. The difference to the older version 704h was that this time I haven't had to apply the GUI client executables from an earlier version I have backup-ed previously. That means, I could be sure now that both *server* and *client* parts of LinFBB are of the very same version.
- Then I entered /usr/sbin/xfbbX and soon after XFBB Setup screen appeared, asking to enter the Callsign and Password. From the Help menu, I checked for About and Copyright and I was satisfied when noticed that it was 7.04j version of the Linux GUI client.

9.3 fbbsrc.704j (using Red Hat 9.0)

2004-01-05

Notice: Although I managed to compile all parts of the newest LinFBB version, I was not so happy because my Linux platform was still the old one: Red Hat 7.1 and I wanted to have 9.0 version. That's why I started planning what to do with the things intended to be backup-ed before the another fresh installation of Linux. The main trouble were the existing Netscape 4.76 email folders, because it was obvious that the 4.76 directory structure greatly differ from Netscape 7.1 folder tree. In fact, a user of Netscape 4.76 email only has to make a backup copy of the hidden ***.nsmail*** *directory that, in turn, has to be restored into the same location after the eventual next re-installation of the Red Hat 7.1 distribution. That is a simple task to do. But, the problem with newer Netscape 7.1 was that it has the different directory tree when compared to its predecessor, in addition to a slightly changed email structure. In fact, I tried to use Netscape 4.76's* ***.nsmail*** *directory with the fresh Netscape 7.1 installation and that just didn't want to run properly. Than I looked for another way to accomplish that task and here is how I did it.*

I already knew that Netscape and Mozilla software (in particular the newer one versions of them) converge in a way they seem to use a similar or the very same "engine" as well as the directory structure. Having in mind that the newer Red Hat 9.0 distribution have *not* offered any version of Netscape software at all and that Mozilla packages remained in the newer Red Hat's - I decided to perform the following steps:

1. to make a simple *upgrade* from Red Hat 7.1 to Red Hat 9.0 (in order to keep the original Netscape's 4.76 **.nsmail** directory structure *intact*, but to get an up-to-dated version of Mozilla which comes with this particular Red Hat upgrade and that is the same as Mozilla after the 'fresh' installation of RH 9.0);

2. to make an *import* of the existing email from Netscape 4.76 to Mozilla (interestingly, the new Mozilla only supports an *import* from a "Netscape 4.x");

3. to make a *backup* copy of the new Mozilla's directory structure;

4. to make a *'fresh' installation* of Red Hat 9.0 (in order to ensure the stable environment that, in turn, will also have the same new Mozilla);

5. to make a *'restore'* of Mozilla's directory structure (previously backup-ed);

6. to *install* the new Netscape 7.1 that, as mentioned, will use the *same* directory structure as the new Mozilla;

7. to *have* a choice: to run either Netscape or Mozilla (if you get bored from either of them :-)).

Well, these steps were the nice mental exercise, but finally I got them all running as I wanted. After I got sure that the Internet email and browsing capabilities of my new Red Hat 9.0 became OK, I got to the beginning of LinFBB installation procedure. Now I am not going to repeat the items from the previous LinFBB sub-section, but what I would like to say is that the step 4. (a couple of paragraphs above) have not brought some X Window development packages, needed for compiling of **xfbbX**. I mean, once again I managed to compile *xfbbd* and *xfbbC* without problems, but a **make** of xfbbX haven't produced the result I expected. In fact, it returned something like this:

```
[root@localhost X11]# make
gcc -Wall -Wstrict-prototypes -O2 -g -funsigned-char  ...
In file included from ../../include/xfbb.h:34,

...
...

xfbbabtd.c: In function `DisplayInfoDialog':
xfbbabtd.c:428: warning: comparison between pointer and integer
make: *** [xfbbabtd.o] Error 1
[root@localhost X11]#
```

I was advised by the friendly FBB-hams that obviously something of the X Window development stuff have been missing, so I started to explore the *RPM*'s I already have installed:

```
[root@localhost root]# rpm -qa *lesst*
lesstif-devel-0.93.18-1
lesstif-clients-0.93.18-1
lesstif-mwm-0.93.18-1
lesstif-0.93.18-1
[root@localhost root]#
```

- As long as I know, all these *lesstif* packages don't belong to either Red Hat 7.1 nor 9.0 distribution. I have probably downloaded them as a '3rd party' software. Besides that, I also noticed that Red Hat 9.0 installation CD's do include the following:

```
lesstif-0.93.36-3.i386.rpm
lesstif-devel-0.93.36-3.i386.rpm
openmotif21-2.1.30-8.i386.rpm
openmotif-devel-2.2.2-14.i386.rpm
```

- Well, a nice try to 'upgrade' to lesstif-0.93.36-3.i386.rpm ended up with an error report on the conflicts with the existing lesstif-0.93.18-1 - so I gave up;
- Then I entered a 'loop' of failed dependencies as follows:

```
lesstif-devel-0.93.36-3.i386.rpm required
XFree86-devel and lesstif = 0.93.36

XFree86-devel-4.3.0-2.i386.rpm required
fontconfig-devel and pkgconfig

fontconfig-devel-2.1-9.i386.rpm required
freetype-devel >= 2.1.2-7
```

- Then the following stuff got installed without complaints:

```
[root@localhost root]# rpm -i freetype-devel-2.1.3-6.i386.rpm
[root@localhost root]# rpm -i fontconfig-devel-2.1-9.i386.rpm
[root@localhost root]# rpm -i pkgconfig-0.14.0-3.i386.rpm
[root@localhost root]# rpm -i XFree86-devel-4.3.0-2.i386.rpm
```

- Well, at this point I tried to recursively install lesstif-0.93.36-3.i386.rpm *once again* but it conflicted with the existing lesstif-0.93.18-1 - so I gave up *once again*;
- While pulling out the remaining hair, I just tried another ***make*** within the X11 directory and ... Bingo! ... *xfbbX* finally got compiled! Only God knows which one of the packages above was/were the missing part(s). Case some of *you* knows, please let me know.
- And, as they said: ... and after all that had happened, what remained has just gone to a legend ... :-)

What remains to be explored (at least for me) is to see how to maintain various sysop's tasks (ex. how to execute 'housekeeping' mechanism by a mouse click or like) - from within *xfbbX*. Your suggestions are welcomed (they can be added as contributions to the next releases of this mini-HOWTO!).

9.4 fbbsrc.704o (using Mandrake 9.1)

2008-01-13

*Notice: I started to play with Mandrake release 9.1 for i586 (Bamboo) some two years ago. That version was equipped with kernel **2.4.21-0.13mdk** and, as you can expect, after the installation of the new OS, I decided to put fbbsrc.704j on it because I was familiar with version 7.04j. Unfortunately, in that particular iteration I have only managed to compile the server part of LinFBB (xfbbd) and despite my best efforts I couldn't have produced the graphical client (xfbbX). As you have learned above what I was experiencing with earlier LinFBB versions when I was about to compile GUI clients, I tried to follow the same procedure once again: I mean to ensure that Motif (LessTif) was there etc. But whatever I tried to install/uninstall I haven't got any success with the client. So, I ended up with running xfbbd v. 7.04j and xfbbX v. 7.00g24 (dated Oct 16 1999) which was included in 7.04j tarball. You can imagine that I was not happy with such confusing situation, so I decided to try something that reached the markets in Sep 2007: a new version 7.04o*

Since the previous version I was using, it seems that LinFBB has changed its maintainer, though I don't know if Bernard, F6BVP took the 'job' from F6FBB officially or not. Regardless of that, I expected to see some improvements in a way they constructed GUI clients to make it easier to compile xfbbX - regardless a distribution of Linux being used. This time I downloaded the package from F6BVP's location: http://f6bvp.free.fr/logiciels/BBS-f6fbb/xd704o-src.tgz

The procedure with xd704o-src.tgz is the same as it was with earlier versions of LinFBB - so I am not going to replay how to compile the executable files. A new fact for me was that the base directory tree of LinFBB keeps changing (it started to change from version 7.04n). Now, almost all parts of the program have to be placed in subdirectories of **/usr/local** but at the first moment I missed that point. To be precize, I was used earlier to put new executables into /usr/sbin directory with other similar files, the configuration files into /etc, etc. When I tried to activate xfbbd within the old locations, nothing happened so I thought the compilation process might have failured. After recognizing my mistake and moving the program parts in accordance with instructions provided (always read the manuals!), another incarnation of LinFBB *daemon* started to run immediately. To be honest, I haven't noticed anything special with it, so I rushed to compile the client xfbbX.

By the way, besides the location I downloaded xd704o-src.tgz from, I also noticed http://f6bvp.free.fr/logiciels/BBS-f6fbb/xd704o_i386.tgz which I supposed to be a version for older CPUs, like PI or PII. Instead, it appeared that it was the complete structure of LinFBB's new directory tree, including already compiled versions of xfbbd and other executables, minus the client xfbbX - which found me a bit disapointed.

I did not have any option but to try compilation of xfbbX by myself. At first, I tried to position myself to the proper location, as follows:

```
[root@server src]# cd X11
```

Then I invoked *make* command:

```
[root@server X11]# make
gcc -Wall -Wstrict-prototypes -O2 -g -funsigned-char  -D__LINUX__ -DPROTOTYPES -I../../include
gcc -Wall -Wstrict-prototypes -O2 -g -funsigned-char  -D__LINUX__ -DPROTOTYPES -I../../include
gcc -Wall -Wstrict-prototypes -O2 -g -funsigned-char  -D__LINUX__ -DPROTOTYPES -I../../include
gcc -Wall -Wstrict-prototypes -O2 -g -funsigned-char  -D__LINUX__ -DPROTOTYPES -I../../include
gcc -Wall -Wstrict-prototypes -O2 -g -funsigned-char  -D__LINUX__ -DPROTOTYPES -I../../include
gcc -Wall -Wstrict-prototypes -O2 -g -funsigned-char  -D__LINUX__ -DPROTOTYPES -I../../include
gcc -Wall -Wstrict-prototypes -O2 -g -funsigned-char  -D__LINUX__ -DPROTOTYPES -I../../include
gcc -Wall -Wstrict-prototypes -O2 -g -funsigned-char  -D__LINUX__ -DPROTOTYPES -I../../include
xeditor.c: In function `ManageFindDB':
xeditor.c:1511: warning: implicit declaration of function `_XmGrabTheFocus'
gcc -Wall -Wstrict-prototypes -O2 -g -funsigned-char  -D__LINUX__ -DPROTOTYPES -I../../include
gcc -Wall -Wstrict-prototypes -O2 -g -funsigned-char  -D__LINUX__ -DPROTOTYPES -I../../include
/usr/bin/ld: cannot find -lXpm
collect2: ld returned 1 exit status
make: *** [xfbb] Error 1
[root@server X11]#
```

At that point it looked to me that something was missing within the installation of LessTif/Motif but I don't have any idea about what might be wrong. If somebody has some ideas, it may help, so please do not hesitate to contact me via email: skoric at eunet dot rs

Interestingly, I faced to the very same symptoms earlier when tried to compile the GUI front-end of **fbbsrc.704j** where all I managed to have was the following:

```
cd /usr/src/fbbsrc.704j/src/X11
```

```
[root@localhost X11]# make
gcc -Wall -Wstrict-prototypes -O2 -g -funsigned-char  -D__LINUX__ -DPROTOTYPES -I../../include
/usr/bin/ld: cannot find -lXpm
collect2: ld returned 1 exit status
make: *** [xfbb] Error 1
[root@localhost X11]#
```

Then too I got no clues what was caused the errors close to the end of the sequence above and I would really appreciate if somebody would be kind enough to give me some pointers. Actually, all 'make' tries just haven't produced either xfbbX or xfbbX_cl files (or I happened not to find them elsewhere?). The only idea I've got was just to try executing (i.e. mouse clicking on) the original xfbbX *shell script* (dated 09/07/03) which resulted in opening XFBB's main GUI window, asking for callsign, pasword etc. I am not so sure if things should have gone that way, because as explained in earlier installations, I managed to compile xfbbX and xfbbX_cl files, move them to /usr/sbin and activate from there.

After some Internet searching for ideas, I got an email from VK5KMG:

"Hi there Misko, it might be more of a help if you included your complete operating system,ie: computer,processor and so on. As to the ax25 stuff you will need libax25-0.0.11 ax25-apps-0.0.6 ax25-tools-0.0.8. You should be able to get rpm's of these.

Th original compile error was in regard to the updated ax25stuff wnerein you will have to edit the necessary files to reflect the use of the later versions,,,,,alternatively if you are using a 2.2 kernel (though the later updated stuff works quite ok on the earlier kernels) you would need the ax25-utils package, then FBB would compile up ok using the earlier stuff.

To get the X stuff compiled you will have to go into the relative dir in src and compile the files in there and install manually."

I have also downloaded the following versions of AX25 packages from the Net:

libax25-0.0.11-1.i386.rpm ax25-apps-0.0.6-178.i586.rpm ax25-tools-0.0.8-324.i586.rpm

Although all three complained for bad file signatures or like, I managed to install all of them. What followed a repeated 'make' command, was the same failed output. For your information, I tried to tweak appropriate Makefile file before doing *make* in fbb/source/X11 directory, for several times now, but nothing helped.

According to earlier 'symptoms' of that type of an error, I was suspicious that I have forgotten to install some parts of developing software - related to graphical environment. In order to check what actually was installed per default (Mandrake 9.1 distribution), I did the following test:

```
[root@localhost src]# rpm -qa *lesst*
lesstif-0.93.36-2mdk
[root@localhost src]#
```

It was obvious that some of the X Window development parts of lestiff routines were missing here. I started Mandrake 9.1 Control Center's RpmDrake, searching there for possible lestiff-related packages and found three of them. After having them installed, I performed another test:

```
[root@localhost src]# rpm -qa *lesst*
lesstif-mwm-0.93.36-2mdk
```

```
lesstif-clients-0.93.36-2mdk
lesstif-0.93.36-2mdk
lesstif-devel-0.93.36-2mdk
[root@localhost src]#
```

Then it seemed that I finally got all four parts of lestiff, but regardless of that I was not able to compile the xfbbX client.

I would appreciate if someone has new pointers to solve this issue.

---

10. How to access the "xfbbd" server from a DOS client?

Notice: In some of the previous chapters, I announced my plans to use an old i286/12 MHz box, having only 1 MB of RAM, running DOS 5.0, as a 'telnet client' computer. That box has a network card so I would like to 'connect' to the BBS from that one 'telnet client' box. If that succeeds, it would be a good preparation for installing another LinFBB (in the local school club), where several old 286 computers will be also available. It would be nice to offer more than one student-amateur the opportunity to 'connect' the BBS simultaneously, using a bunch of vintage 'telnet client' DOS computers.

10.1 NCSA Telbin DOS client

2003-06-30

First of all, I have been looking for networking software that does not require much of hardware resources. Several hams keep advising me to try this or that way, but Jose, CO2JA, sent me his distribution copy of **NCSA Telnet** utility. According to its own *howto* document, that is actually a **"NCSA Telbin DOS client"**, being "used at The University of Port Elizabeth (Sep '94)". So far about software's earlier "official" usage.

Well, it seems that NCSA TCP/IP kernel only runs on packet drivers now. That's why I looked for appropriate packet drivers for my old ISA network card, equipped with the UMC's UM9003AF chip. **CZ20000.COM** packet driver seemed to be the most suitable one.

Before implementing the driver I also needed the proper diagnostic utility to check and/or modify NIC's IRQ and I/O address in order to avoid possible hardware conflicts (you know, under DOS it is less easier to resolve interrupt hardware conflicts case a user has several ISA cards that are not of P'n'P type /as PCI cards are/). It seemed that **DIAG.EXE** ("The Ethernet Adapter Diagnostic Program, Ver. 2.13" - that comes with E1000 and E2000 series Ethernet cards) was fully capable to handle my card's parameters, so I choose the values of IRQ 5 and I/O 320 that weren't occupied by other resources.

Then I could execute the following DOS command:

```
cz2000 0x60 5 0x320
```

in order to activate the NIC.

Now the configuration file CONFIG.TEL should be modified in order to satisfy my particular needs, including local (DOS client) and remote (Linux server) IP addresses etc. In a couple of minutes that was finished so the main executable **TELBIN.EXE** successfully started running on my old 286 DOS box.

If you want, you may put **cz2000 0x60 5 0x320** and **telbin** commands into a dedicated *TELNET.BAT* file in order to make your telnet utility easier to activate. Should you plan to use your old DOS box for only accessing the Linux FBB server, both lines may be added to the *AUTOEXEC.BAT* start up file.

10.2 Xrouter 176b

2003-07-20

A "YL" (the amateur "young lady") from the UK, Paula Dowie G8PZT, has suggested me to try her own product, XROUTER MULTI-PROTOCOL ROUTER, that is "an AX25 and IP packet router for the amateur packet radio network, using a standard PC and DOS". Actually, it seems that Xrouter has much more functions that I need now, but anyway it was intriguing to test its features, in order to connect LinFBB via LAN. Paula said that "Xrouter http://pzt.org.uk/software/software.htm will run on a 286 DOS machine, and will act as a telnet client". She added that, Xrouter's "outgoing text is composed in a one line buffer, so the receive window is only 22 lines".

According to Paula's email signature, seems she's very active in helping to the amateur digital radio activities:

```
> Packet:   G8PZT @ GB7PZT.#24.GBR.EU  (44.131.91.2) [Kidderminster]
> Email:    g8pzt@blueyonder.co.uk                                  _/\_
> GB7PZT:   01562-745527 24h 300-33,600 8,n,1                       ()
> Software: XServ BBS, Xrouter, PEARL off-line-reader.               />
> Web Site: www.pzt.org.uk   (also www.qsl.net/g8pzt)          ===>--->>\----
> Telnet:   (BBS): gb7pzt.dyndns.org:88  and 44.131.91.2:23
> Telnet:   (KIDDER): g8pzt.ath.cx and 44.131.91.245
> HTTP:     http://g8pzt.ath.cx/ and http://44.131.91.245
```

So, I went to visit the site to see what it was about and to download the package. There were two compressed files, rout172.zip and rout176c.zip so I decided to get both of them (the latter is the newer one, 28/7/02 but the other one is also not so old, 15/11/01).

According to sysop's manual **XROUTER.TXT** the ethernet driver allows connection with Windows, Linux, NOS and BPQ. At the moment I am primarily interested in connections to LinFBB (and maybe to WinFBB too). Xrouter's hardware requirements include at least one COM port or Ethernet card and I used only the Ethernet card for the first time because I am not going to use Xrouter for anything else but for accessing LinFBB over my home network.

As described in the previous section, related to "NCSA Telbin DOS client", I have managed to activate my NIC using the command:

```
cz2000 0x60 5 0x320
```

After doing that, there was a requirement to use the software component **ETHDRV.EXE** (supplied with Xrouter), like this:

```
ethdrv 125
```

where "125" stands for a software interrupt in the range 60 - 127 (125 is used as an example that, BTW, works here without any problem). On the other side, the same software interrupt must be defined as the INTNUM parameter, that is a part of the INTERFACE block within **XROUTER.CFG** configuration file.

And, finally, there was a command:

```
xrouter
```

to activate the main executable. As mentioned before, all three lines above may be incorporated into an *XROUTER.BAT* (or whatever similar) batch file to make user's life easier.

Well, although in my case the first two lines responded in positive manner, the last one rather suggested that I had some errors in the configuration. The nice thing is that errors are reported with a detail such the exact line of **XROUTER.CFG** where an error is made. In fact, Xrouter is able to support lots of various "ports" and has a plenty of other features, so it was not easy to solve the config issues I faced to. With some help from other hams I managed to adapt the following configuring blocks:

```
INTERFACE=8
    TYPE=EXTERNAL
    PROTOCOL=ETHER
    MTU=1600
    INTNUM=125
ENDINTERFACE
```

and

```
PORT=6
    ID=Ethernet LAN
    INTERFACENUM=8
    CHANNEL=A
    FRACK=1000
    RESPTIME=200
    MAXFRAME=7
    PACLEN=240
ENDPORT
```

So far, so good. Now I got Xrouter's main screen from where I could enter telnet and other commands. But I was still not able to connect to the LinFBB. Finally, I got the suggestion to reconfigure another Xrouter's system file, **IPROUTE.SYS**. It seemed that the missing part was to change the default route, as follows:

```
route default 6 * d
```

Then I became capable to access my LinFBB server.

10.3 JNOS 1.11f

2007-04-09

Similarly to Xrouter, JNOS is much more than a simple 'telnet client' for DOS machines. And yes, its telnet ability is fine so I use it to make casual connections to my LinFBB server without problems.

On the other side, I always wanted to offer a 24/7 mailbox service to the radio amateurs in my area. Having in mind that the computer the LinFBB server runs on is everything but a brand new machine, and if it failured I would stay without my primary working computer, I started thinking to use the old 80286 box as a full-time mailbox. In fact, JNOS might be one of the best solutions for that:

```
- It provides complete mailbox operations for incoming users,
- It supports low-end computers, like my 80286 with 1MB RAM,
```

```
- It supports mail forwarding with LinFBB servers, including
  forwarding over Ethernet,
- etc.
```

Plans

Here it is a diagram of my planned ham radio systems:

```
 __________________________                ______________________________
|80286 CPU, 12MHz, 1MB RAM|               |P II CPU, 400MHz, 224 MB     |
|MS DOS 5.0               |               |Linux Mdk 9.1 / Win2000Pro   |
|JNOS 1.11f for DOS       |               |LinFBB 7.04j / WinFBB16 7.00i|
|configured AXIP tunnel   |-- Ethernet --|BPQ32 with AXIP tunnel       |
|TNC2 in KISS mode        |   10 mbps    |tel. modem port 33k6         |
|2m VHF radio             |    (LAN)     |dial-up to the Internet      |
|network card             |               |network card                 |
---------------------------               -------------------------------
```

The idea was to use the 286 box as a 24/7 amateur radio mailbox. The local users would connect to the mailbox using their VHF stations. While logged, they are offered to read bulletins that have been supplied by the LinFBB machine. In addition, users can sent replies to the bulletins' authors as well as to write other personal emails. JNOS is planned to run 24/7 which means its services would be available regardless the LinFBB computer is active or not.

Having in mind that LinFBB is just one of the applications I use when working with the P II computer, and the fact that I don't have enough resources to finance some better equipment, I found it as rational to use LinFBB only when really needed - including forwarding purposes. That means, the local packeteers would have no problem if the P II computer is off while I am at work or something. The 286 box is going to provide all mailbox services.

When I return home from work and switch the LinFBB server on in order to exchange the content of its mailbox with remote BBS stations using 'telnet forwarding' via the Internet, it would establish another 'telnet forwarding'session - this time with JNOS mailbox added. Of course, in that case I would need to keep my dial-up connection to the Internet alive as long as the content of the LinFBB mailbox is exchanged with remote servers. The telnet sessions within the home LAN (Ethernet) can take as much time as needed and during those sessions LinFBB and JNOS mailboxes would exchange both bulletins ('SB' messages) and personal stuff ('SP' messages).

Realization

I have already had a version of JNOS which was dated somewhere in mid-nineties. First of all, I searched the web in order to learn how things changed during the last decade and, as a result, I discovered that the last version of JNOS 'family 1.xx' was 1.11f - for which I have even found the installer package. So I downloaded and installed it - though I was not sure which options were activated ("defined" in the JNOS jargon) and which were not ("undefined").

According the instructions, I ensured that my network card's driver was started before any part of the JNOS program itself. It is important because at the early stages of JNOS booting process, the JNOS ports are configured, including the port which uses the network card. So, I managed to set up two ports:

```
- A port that provides radio access using TNC2 in KISS mode,
- A port that provides telnet access using the network card.
```

The first tests of the equipment proved that both radio and telnet outlets were working, but nothing was considered as finished until the JNOS system was capable to exchange the content of its mailbox with the LinFBB server. Having in mind that the LinFBB server's telnet port has been in use for a long time now, I just set up another forwarding 'partner' that was JNOS. The same I did at the JNOS side, though it was a tricky business because I was used to configure FBB systems and haven't handle any JNOS system since the early nineties. So far - so good.

Unfortunately I faced to the issues I heard of for several times: Telnet is not the best option to make a forwarding between FBB and JNOS. In fact, there is no complete technical description of that behavior available, but what happens is that both FBB or JNOS somehow do not understand what the other party 'wants to say'. To be precise, during the so called handshaking part of the session, both systems have to exchange their 'flags' which are [JNOS-1.11f-BFHIM$] in JNOS and [FBB-7.04j-ABFHM$] in FBB. Whatever happens during that telnet session, often the result is a broken link.

After making several tests without much success, I had to subscribe to a couple of mailing lists and asked for help. The majority of hams suggested to use an AXIP connection instead of telnet. Frankly speaking, I heard of the AXIP and AXUDP connections long ago, but I haven't learned much of them because I did not need them at the time. In short, AXIP (or AXUDP) are used to 'encapsulate' the usual radio traffic of the AX.25 type into the internet-like TCP/IP packets. When you have such encapsulated packets of data, it is easy to transfer them using the wired links - including the Internet or the Ethernet in my case. More details on how to configure AXIP (or AXUDP) you can find in another document: AX.25 howto.

The good thing is that Linux has a 'native' support for the amateur radio networking, which means you do not have to install some "node" or "switch" software that is used as an interface between LinFBB server computer and other amateur radio mailbox systems (more details about the specific setup in my case will follow in the next versions of this document). The good thing at the JNOS side is that it also does not need a "node" or "switch" software that runs bellow the JNOS software itself. That means both LinFBB and JNOS system operators ('sysops' in the ham terminology) are required just to activate and configure native AXIP or AXUDP features of their mailbox systems. In opposite to that, WinFBB (FBB for Windows) sysops have to install additional "node" or "switch" packages, called BPQ or others.

After some fine tuning and additional 'tweaking' the LinFBB and JNOS systems, I am capable to exchange the amateur radio messages between the two mailboxes. Of course, the experimentation is far from over, because there are several minor issues to work on. Stay tuned ...

10.4 Improving the home LAN connections

2007-11-17

As mentioned earlier, I had an old NIC of ISA type equipped with UMC's UM9003AF chip in the DOS computer. On the Linux/Windows side I also used an ISA card which was activated with either module 'ne' in Linux, and was recognized as 'NE2000 compatible' in Windows 2000. For some unknown reason the card was not recognized by Windows XP at all. A friendly ham Paul, N6RME, wanted to donate his spare card of PCI type, equipped with 3Com's 3C905 chip. I decided to move 'NE2000 compatible' ISA card from Linux to DOS machine because I expected not to have problems with its DOS drivers. Besides that, that NIC also had a UTP connector - just like the 'new' 3Com's card, sent by Paul, which meant I could replace the old coax cable with a UTP (FTP) one. So I did.

With the new card at the Linux/Windows side, I started with configuration. W2k recognized the NIC as 3Com Ethernet Link XL 10/100 PCI NIC (3C905-TX) at I/O address of E400 and IRQ 7, while XP recognized it as

3Com 3C905TX at the same address of E400 but IRQ 5. Linux Mandrake 9.1 has found it as 3c905 100BaseTX [Boomerang]. At the first moment I wanted to continue with using the module 'ne' but obviously it was not possible and I got an error message when re-booted Linux. Then I tried to tweak the I/O and IRQ's in Linux with using 'netconf' tool but always got an error. I have also tried to change a value within the computer's BIOS from 'Legacy ISA' to 'PCI/ISA PnP' because the new card is PCI and accordingly not likely to work with settings for earlier ISA card. It did not help, until I replaced the module 'ne' with module '3c59x'. It seems to run fine for now, though it makes me wonder if there might be a more proper "3c90x" module to play with.

To be honest, I haven't improved the link between the two so much (if any) - it still runs as a 10 Mbps link because of the slower 'NE2000 compatible' card at the DOS side. But, with upgrading the cables to a newer standard I increased the chances for further options: To include those two computers in some more complex home LAN, using a hub or a switch.

---

11. How to communicate with LinFBB in Serbian?

2003-08-01

Gentle folks, I am a Serb and I live in Serbia. My language is Serbian and I communicate with FBB in that language. If you like to expand the language capabilities of your LinFBB (and-or WinFBB too), I include two system language files: ***SRPSKI.HLP*** *and* ***SRPSKI.TXT*** *for your convenience. As you can see, the files are in the Latin alphabet although I would like to have them in the Cyrillic too. Case some of you have ideas or links on how to manage that, you are welcome to help.*

11.1 SRPSKI.HLP

=====BOF=====

```
##############################
# SRPSKI.HLP for FBB 7.00g   #
#    (Serbian help file)     #
# by Misko,YT7MPB   02Jul99  #
##############################


#################
# -1 za goste   #
#################


@@ -1 ?

Imate ograniceni izbor naredbi:

B  : bye-diskonekt
H  : ovaj tekst
KM : brise sve PROCITANE poruke za vas
LM : ispis naslova SVIH poruka za vas
O  : izbor opcija (jezik,stranice..)
RM : cita sve poruke za vas
RN : cita sve NOVE poruke za vas
S  : upucuje poruku (SEND)
T  : poziva SysOp-a

###################
```

```
# 0 je za SERVER  #
###################

@@ 0 ?

*** nema takve naredbe !!!

C : statistika konektovanja
D : dokumentacija i informacije
Q : QTH lokatori
N : adresar stanica (CALLBOOK)
T : sateliti i njihove putanje
F : povratak u BBS mod
B : diskonekt iz bbs-a

Upisite: ? <slovo> za detaljniju pomoc  (na pr.. ? T )

@@ 0 C

Konekt-statistika
-----------------
Razne statistike o upotrebi servera, liste i slicno.

@@ 0 D

Informacije
-----------

U ovom delu mozete pronaci razne informacije i dokumentaciju ako postoje.
Naredbe su brojcane.


@@ 0 N

Adresar
-------

Ovde se nalaze informacije koje su korisnici bbs-a ostavili o sebi.
(ime, adresa, telefoni, ...).

Mozete upisati i svoje podatke ....(preporucujemo).

@@ 0 Q

Lokatori
--------
Razni proracuni vezani uz lokator (iz koordinata u LOC, iz LOC u koordinate,
QRB, sumirajuci QRB vise lokatora, azimuti...).

@@ 0 T

Putanje satelita
----------------
Proracun putanja, orbitalnih parametara, karakteristike raznih satelita
(ukoliko za njih postoje podaci).

@@ 0 F

Povratak u BBS
--------------

Naredbom: F <enter> se mozete vratiti nazad u BBS mod.
```

```
@@ 0 B

Bye - diskonekt
----------------

Naredbom: B <enter> prekidate QSO sa bbs-om.

###########################
# QRA-locator server is 2 #
###########################


@@ 2 ?

*** nema takve naredbe !!!

Q : proracun koordinata iz lokatora,
L : proracun lokatora iz koordinata,
D : proracun QRB i azimuta izmedju dva lokatora,
C : sabiranje QRB izmedju pocetnog LOC i vise drugih lokatora,
F : povratak u server meni,
B : diskonekt iz bbs-a.

Ukucajte: ? <slovo> za detaljniju pomoc (na pr.. ? L).

@@ 2 Q

naredba Q
---------

Izracunava koordinate iz lokatora. Rezultat je u stepenima/min. i gradima.
Gradijani nam bas i nisu zanimljivi pa zavisno od jezika se nece ni ispisati.

@@ 2 L

naredba L
---------

Izracunava lokator iz koordinata. Koordinate se mogu uneti u decimalnim
stepenima, stepen./min. i gradijanima.

Primer unosa u stepenima i minutima:   1:45:00 (smer)

Ovaj smer zamenite sa Sever, Jug, Istok, Zapad prema potrebi. Pazite da
prvo slovo bude VELIKO, na pr.. 1:45:00 Sever

@@ 2 D

naredba D
---------

Izracunava QRB i azimut izmedju dva lokatora. QRB je u km, azimut u stepenima.

@@ 2 C

naredba C
---------

Sabira izracunate QRB. Nakon unosa polaznog LOC svi sledeci QRB se nakon
proracuna dodaju ukupnoj sumi km.
```

```
Ako nemate digitron ili racunar mozete ovde izracunati rezultate contesta :))

@@ 2 F

naredba F
---------

Vraca vas nazad u SERVER mod pa mozete probati neki drugi modul servera.
Ako ponovo posaljete F <enter> vracate se u BBS mod.

@@ 2 B

naredba B
---------

Prekidate vezu bez vracanja u BBS mod.

###################
# STATISTICS is 3 #
###################


@@ 3 ?

*** nema takve naredbe !!!

O : zauzeca na bbs-u u %,
G : opsta statistika bbs-a,
L : spisak konektovanih stanica,
H : graficki prikaz dnevne upotrebe bbs-a,
J : graficki prikaz nedeljne upotrebe bbs-a,
I : spisak svih stanica koje su do sada bile u bbs-u,
F : povratak u SERVER-MENI,
B : diskonekt iz bbs-a,

Ukucajte: ? <slovo> za detalje o nekoj naredbi ( na pr..  ? L).

@@ 3 O

naredba O
---------

Procenat upotrebe raznih resursa servera, mailbox-a i DOS modula.

@@ 3 G

naredba G
---------

Opsta statistika servera (broj poruka, konekta, vremena...)

@@ 3 L

naredba L
---------

Konekt lista. Za  svaki  konekt  ispisuje  se: port, znak, pocetak i vreme
trajanja konekta. Lista se daje unazad, a ispis se prekida sa A.

@@ 3 H

naredba H
```

```
---------

H       : graficki prikaz upotrebe BBS-a po satima od 00 - 24h,
H CALL  : graficki prikaz upotrebe BBS-a od strane CALL. Moguci su i "dzoker"-
          znaci.Na pr. H YU7* ce dati ispis za sve YU7 stanice koje su bile tu.

@@ 3 J

naredba J
---------

J       : graficki prikaz upotrebe BBS-a po danima u sedmici od Pon do Ned,
J CALL  : graficki prikaz upotrebe BBS-a od strane CALL. Moguci su i "dzoker"-
          znaci.Na pr. J YU7* ce dati ispis za sve YU7 stanice koje su bile tu.

@@ 3 I

naredba I
---------

I        : abecedni spisak stanica koje su koristile BBS. Moguci su i
           "dzoker"-znaci.Na pr. I YU7* ce dati listu svih YU7 stanica.


@@ 3 F

naredba F
---------

Vraca vas nazad u SERVER-MENI pa mozete da probate neki drugi modul servera.
Ako ponovo posaljete: F <enter> vracate se u BBS mod.


@@ 3 B

Bye - diskonekt
----------------

Naredbom: B <enter> prekidate vezu, bez potrebe da se vracate u BBS mod.


######################
# DOCUMENTATION is 4 #
######################

@@ 4 ?

Dokumentacija
-------------

Da bi procitali neki tekst sa liste samo upisite njegov broj.
Nove stvari se upisuju putem NEWDOC servera iz BBS-a (? NEWDOC).

L ispisuje listu fajlova.

Sysop: OPIS se moze menjati D naredbom ( na pr.. D BBS.DOC opis).

@@ 4 F

naredba F
---------
```

```
Vracate se nazad u SERVER-MENI pa mozete probati neki drugi modul servera.
Ako ponovo posaljete: F <enter> vracate se u BBS-mod.

@@ 4 D

naredba D (samo za SysOp-a)
--------------------------

Izmena opisa dokumentacionih fajlova.

@@ 4 L

naredba L
---------

Daje spisak postojecih tekstova.

@@ 4 R
------

naredba R
---------

Ako ste otisli u neki od DOCS poddirektorijuma sa R se vracate na raniji DIR.

#####################
# NOMENCLATURE is 5 #
#####################



@@ 5 ?

*** nema takve naredbe !!!

N : promena licnih podataka: imena, adrese...,
R : pretrazuje bazu za podacima o nekoj stanici,
I : lista konektovanih znakova,
F : povratak u server meni,
B : diskonekt iz bbs-a.

Ukucajte: ? <slovo> za detalje o naredbi (na pr..  ? N ).

@@ 5 N

naredba N
---------

Ako nema podataka o vasem imenu, adresi, tlf ili su netacni, mozete ih
uneti ili menjati ovom naredbom.

Ukoliko na pitanje odgovorite sa razmakom ili <RETURN> nece se promeniti
taj podatak.

Ukoliko je sve OK, samo odgovorite slovom N na (D/N) pitanje.

SysOp : sysop moze menjati podatke korisnika naredbom N CALL.


@@ 5 R

naredba R
```

```
---------

Pretrazuje bazu podataka u potrazi za podacima o nekom pozivnom znaku.
Na pr. R YU7APV <enter>.

@@ 5 I

naredba I
---------

Abecedni popis stanica koje su do sada konektovale ovaj BBS.

@@ 5 F

naredba F
---------

Vraca vas nazad u SERVER-MENI pa mozete probati neki drugi modul servera.
Ako ponovo posaljete: F <enter> vracate se u BBS.

@@ 5 B

Bye - diskonekt
----------------

Naredbom: B <enter> prekidate vezu, bez potrebe da se vracate u BBS mod.

#######################
# TRAJECTOGRAPHY is 6 #
#######################

@@ 6 ?

*** nema takve naredbe !!!

T : izracunava putanju/polozaj nekog satelita,
P : prikazuje orbitalne parametre,
C : karakteristike amaterskih satelita,
F : povratak u server meni,
B : diskonekt iz bbs-a.


Posle naredbi C, P i T mozete da upisete L za SPISAK satelita.

Ukucajte ? <slovo> za detalje o nekoj naredbi ( na pr..  ? C ).

@@ 6 T

naredba T
---------

Izracunava putanju satelita. Nakon sto ste odabrali satelit za koji zelite
proracun morate uneti datum i vreme za koje zelite podatke. Svi podaci su
bazirani na vasem lokatoru ukoliko ste ga upisali inace se racuna prema
lokatoru ovog bbs-a.

Za popis satelita upisite L <enter>.

@@ 6 P

naredba P
---------
```

```
Ispisuje orbitalne parametre satelita koji se koriste u proracunima.

Za popis satelita upisite L <enter>.

@@ 6 C

naredba C
---------

Daje karakteristike i informacije o izabranom satelitu.

Za popis satelita upisite L <enter>.

@@ 6 F

naredba F
---------

Vraca vas nazad u SERVER-MENI pa mozete probati neki drugi modul servera.
Ako ponovo posaljete: F <enter> vracate se u BBS-mod.


@@ 6 B

Bye - diskonekt
----------------

Naredbom: B <enter> prekidate vezu bez potrebe da se vracate u BBS-mod.

###############
# 9 is DosFBB #
###############

@@ 9 ?

Moguce naredbe u DosFBB delu su:

? i HELP      : ovaj tekst,
O             : opcije (stranice po liniji, bazni broj...),
BGET          : Autobin download,
BPUT          : Autobin upload,
DIR           : ispis sadrzaja direktorijuma (LIST je daleko bolja)
DU            : disk usage - spisak DOS dir's sa pojedinacnim zauzecem,
EDIT          : editovanje fajla,
GET           : download (ispis) tekst fajla,
PUT           : upload (upis) tekst fajla,
CD            : promena direktorijuma,
COPY          : kopiranje fajla,
DEL           : brisanje fajla,
MD            : napravi direktorijum,
RD            : obrisi prazan direktorijum,
XGET          : XMODEM download (tel. modem),
XPUT          : XMODEM upload (tel. modem),
X1GET         : 1k-XMODEM download (tel. modem),
YGET          : YAPP download (ili YMODEM via tel. modem),
YPUT          : YAPP upload,
ZGET          : ZMODEM download (tel. modem),
TYPE          : ispis ASCII fajla sa paginacijom,
LIST          : ispis fajlova sa kratkim opisom ako postoji,
PRIV          : odlazak u posebni, privatni direktorijum,
VIEW          : pogled u sadrzaj arhiviranih fajlova (ARJ, ZIP, LZH, ARC),
```

```
WHERE file   : pretraga po disku za fajlovima,
NEW          : ispis novih fajlova od zadnje primene NEW,
EXIT,F i QUIT: povratak u BBS-mod,
B            : diskonekt iz bbs-a.

Diskove mozete menjati kao i u DOS sa A:,C:,D: (ukoliko postoji vise diskova)

Za detalje ukucajte ? <naredba>    (na pr..  ? WHERE).

@@ 9 HELP

naredba HELP
------------

Ispisuje spisak svih raspolozivih naredbi u DosFBB delu.

@@ 9 B

Bye - diskonekt
----------------

Naredbom B <enter> prekidate vezu bez potrebe da se vracate u BBS-mod.

@@ 9 CD

naredba CD
----------

Koristi se za promenu direktorijuma, na pr.. CD \YAPP. Za "natrag" jedan dir
koristite naredbu: CD <enter>.

@@ 9 COPY

naredba COPY
------------

Sluzi za kopiranje fajlova. (na pr..  COPY TEST.TXT TEST2.TXT)

Kopiranje preko vec postojeceg fajla nije dozvoljeno (greska).

@@ 9 DEL

naredba DEL
-----------

Sluzi za brisanje fajlova. Mozete obrisati SAMO fajlove koje ste vi poslali.

@@ 9 DIR

naredba DIR
-----------

DIR prikazuje sadrzaj direktorijum,a bilo onog u kojem ste sada bilo drugog
ako unesete punu putanju ("path") na pr. DIR \YAPP.

"Dzokeri" su dozvoljeni, na pr.. DIR *.SYS

@@ 9 DU

naredba DU
----------
```

```
DU (Disk Usage) ispisuje zauzet/slobodni prostor na disku.

@@ 9 EDIT

naredba EDIT
------------

Sluzi za editovanje (ispravku) tekst fajlova. Nakon njene primene ulazi se
u poseban editor sa malom grupom posebnih naredbi, sto je previse pa ne bi
dalje o ovome ....

@@ 9 EXIT|QUIT|F

naredbe EXIT,QUIT i F
---------------------

Sve znace isto: izlaz iz DosFBB nazad u BBS-mod.

@@ 9 GET

naredba GET
-----------

Ovo upotrebite ako zelite da preuzmete/procitate neki TEKST fajl sa BBS-a.
Ispis je kontinuiran. Na pr. GET PHONE.BBS.

Pazite, neki fajlovi nisu tekstualni i ova naredba nije za njih. Tacnije,
dobijate cudne znakove na ekranu ako probate GET sa NE-tekstualnim fajlovima.

@@ 9 LIST

naredba LIST
------------

Daje spisak fajlova (kao i DIR), ali uz njih ispise i kratki opis ukoliko
postoji.

@@ 9 MD|MKDIR

naredba MD ili MKDIR
--------------------

Pravi novi direktorijum unutar onoga u kojem se koristi. Na pr MD TEST.
Nema svrhe da se ovo proba, osim uz dobro objasnjenje SysOp-u (hi)...

@@ 9 NEW

naredba NEW
-----------
Vrlo zgodno jer vam daje spisak SVIH NOVIH fajlova u SVIM direktorijumima od
kako ste poslednji put dali NEW. Koristite je kad udjete u DOS, lakse je nego
DIR "okolo-naokolo".

@@ 9 O|OL|ON|OR|OP|

naredba O
---------

Daje dosta raznih stvari:

O <enter> ispisuje stanje ovoga ispod za vas slucaj,
```

```
OP     - iskljucuje ispis po stranicama,
OP br. - ukljucuje ispis po stranicama sa <br.> brojem linija po strani,
OL     - spisak mogucih jezika za koriscenje u bbs-u,
OL br. - prelazak na jezik <br.>,
ON     - ispis osnovnog (pocetnog) broja za listanje poruka,
ON br. - upis novog osnovnog (pocetnog) broja <br.>.
         To je broj koji se sabira sa onim sto upisete kod rada sa porukama.
         Kako je nezgodno kucati R 20002 postavite ON 20 (isto kao i ON 20000)
         i posle kucate samo R 2, a BBS vam cita poruku 20002 (20000 + 2, ok?)
OR     - uklj/isklj citanje licnih poruka za druge korisnike,
OM     - uklj/isklj mogucnost auto-listanja novih licnih poruka kod konekta.

@@ 9 PUT

naredba PUT
-----------

Sluzi za upis nekog vaseg tekst fajla u BBS. Ukoliko vec postoji isto ime,
stari fajl se prvo mora obrisati (naravno, samo ako je to bio vas fajl).

Na pr. PUT INFO.C64 snima u bbs fajl pod imenom INFO.C64

@@ 9 PRIV

naredba PRIV
------------

PRIV naredba daje pristup u posebni direktorijum, samo vas ili jos neciji.
To moze u dogovoru sa SysOp-om, ako ima mesta na hard disku.

Takav DIR moze da postavi samo SysOp.

@@ 9 RD|RMDIR

naredba RD ili RMDIR
--------------------

Brise prazan direktorijum koji ste vi napravili.

@@ 9 TYPE

naredba TYPE
------------

Daje ispis tekst fajla po STRANICAMA ukoliko tako zelite (vidi OP naredbu).

@@ 9 VIEW

naredba VIEW
------------

naredbom VIEW moze se "pogledati" sta sadrzi neki arhivirani fajl.
To su svi fajlovi sa: .ARJ .ZIP .LZH .ARC nastavcima.
Primer: VIEW SP
@@ 9 XGET|XPUT|X1GET|ZGET

naredbe XGET, XPUT, X1GET, ZGET
-------------------------------

SAMO ukoliko BBS ima i telefonski modem-port i ako ste preko njega
konektovani. One sa GET su za skidanje , a sa PUT za upis fajlova i to:
```

```
XGET  - XModem
X1GET - XModem-1k
ZGET  - ZModem
YGET  - YModem

Upotreba je ista : naredba <ime_fajla>

VAZNO: na BBS-u moze biti postavljen dozvoljeni dnevni limit u kb za preuzimanje.

@@ 9 YGET|YPUT|BPUT|BGET

naredbe YGET, YPUT, BPUT, BGET
------------------------------

Koriste se za skidanje/slanje binarnih fajlova putem radio veze.

YGET i YPUT za YAPP protokol (YAPP, TPK, PTM..)
BPUT i BGET za Autobin protokol (SP, GP, Turbopacket..)
YGET preko modema za YModem protokol

Upotreba je ista : naredba <ime_fajla>

VAZNO: na BBS-u moze biti postavljen dozvoljeni dnevni limit u kb za skidanje.


Napomena: NE koristite YAPP ako nemate program sa "yapp resume" mod-om !!!

##################
# BBS-mode is 14 #
##################

@@ 14 A|ABORT

(A)bort tj... prekid ispisa iz BBS-a.

OK, ako ste poceli da citate nesto pogresno, ali uzmite u obzir sva kasnjenja
kroz mrezu dok "A" ne stigne do BBS i prekine ispis....

@@ 14 B

B naredba vas diskonektuje iz BBS-a (uz jos neke podatke).

Bitno je da samo tako izlazite iz BBS-a, a ne diskonektom jer ce vam samo tako
ostati podesene nove vrednosti za naredbu L ("List").

Ukoliko se veza prekine tako necete izgubiti poslednje stanje.

@@ 14 C|CW

CW naredba ispisuje stanice u konferenciji.

C  naredba vas ubacuje u konferenciju tj... "bla-bla" okrugli sto u kojem sve
   sto pisete ide svima koji su takodje trenutno u konferenciji na bbs-u.

U konferenciji sve naredbe pocinju sa tackom u prvoj koloni !!!

.C[port] call [via digi1 digi2...] konektuje stanicu na portu,
.H vam daje ovaj tekst,
.W ispisuje prisutne stanice u konferenciji,
.Q vraca vas iz konferencije nazad u BBS-mod.

@@ 14 CB
```

```
   Pomocu naredbe CB CALL dobicete adresu za trazeni znak iz callbook-a
   sa CD ROM-a (kad ga budemo ugradili, hi), na pr.: CB YU7APV

@@ 14 D|DOS

Naredba ima dvostruko znacenje:

1. Samo D bez argumenata vas prebacuje iz BBS u DOS mod. Tu mozete kao i na PC
   slati/skidati fajlove, kopirati, citati.....
   Paznja: DOS deo ima svoje, drukcije naredbe. Napravite HELP kada udjes u
   njega !

2. D uz argument vam daje download nekog tekst fajla. Na pr D \yaesu\ft-411.mod
   i BBS ce vam poslati fajl FT-411.MOD iz  YAESU direktorijuma. U vezi ovog
   pogledajte i pomoc za W naredbu (?W).

VAZNO: samo programi koji imaju uobicajene ekstenzije tipa: .TXT, .DOC, .INF
       se mogu normalno procitati. Svi ostali se moraju preneti posebnim
       nacinom (vidi pomoc za YAPP prenos).

@@ 14 F

F naredba vam daje pristup serveru i dodatnim mogucnostima.
Server koristi sistem menija gde ulazite prvo u glavni meni.
Za objasnjenja koristite uvek samo: ? <enter>.

@@ 14 G

G naredba daje pristup Gateway-u. Upotrebljivo tek kod BBS-ova sa
vise portova na razlicitim frekvencijama.

@@ 14 ?|H|HELP

Spisak mogucih naredbi ili GRUPE naredbi (vise njih sa istim PRVIM slovom).

A :(abort) - prekida ispisivanje necega,
B :(bye)   - diskonekt,
C :(conference) - ulaz u konferenciju (bla-bla vise stanica),
CB: Trazenje adrese ARS sa CD ROM-a (ako je ugradjen CD citac),
D :(DOS)   - ulaz u FbbDOS ili download fajla,
F :(FBB)   - ulaz u server (adresar, sateliti, lokatori...),
G :(gateway) - pristup drugim frekvencijama BBS-a (ako postoje),
H :(pomoc) - tekst za pomoc kad vam zatreba,
I :(info)  - info o sistemu ili grupa naredbi White Page servera,
J :(jheard)- spisak nekoliko poslednjih konektovanih/slusanih stanica,
K :(kill)  - brisanje poruka,
L :(list)  - listanje poruka,
M :(make)  - kopira poruku/bilten u fajl,
N :(name)  - menja vase ime,
NH:        - upisuje BBS na koji ce ici poruke za vas (MYBBS, HomeBBS...)
NZ:        - upisuje postanski broj vaseg QTH,
NQ:        - upisuje vas grad ili mesto,
NL:        - upisuje vas QTH lokator,
O :(option)- odabir opcija (stranice, jezika.....),
PS:        - spisak prisutnih servera (nije isto sto i "server mod"),
PG:        - pokretanje ili popis posebnih DOS programa,
R :(read)  - cita poruke,
S :(send)  - salje poruke,
T :(talk)  - zove SysOp-a,
TH:(themes)- pristup tematskoj podeli biltena (novo u FBB 7),
V :(verbose)- cita poruke sa kompletnim putanjama ili verzija BBS-a,
```

```
W :(what)  - spisak fajlova u DOS delu,
WP:        - White Page server, pomoc detaljnije sa:   ? WP,
X :(expert)- menja status korisnika: normal ili expert,
Y :(yapp)  - protokol za prenos binarnih (najcesce programskih) fajlova,
Z :(delete)- brise fajl,
> :(text)  - salje kratki tekst nekom drugom korisniku (sada) u BBS-u,
= :(conn.) - konektuje vas sa nekim drugim korisnikom (sada) u BBS-u,
! :(info)  - kratki info o bbs-u,

Opsirniju pomoc za sve naredbe dobijate ukoliko otkucate: ? <naredba>.

Na pr: ? c   ? f   ? y    .....

@@ 14 I|INFO

I         daje INFO fajl o ovom BBS-u (ukoliko postoji informacija).

WhitePages server naredbe:

I CALL    daje podatke o stanici, preuzete iz WP servera,
ID        broj zapisa u WP bazi podataka,
I@ BBS    daje listu korisnika nekog BBS-a (I@ YU7A),
IH ruta   daje poznate korisnike sa zadatom hijerarhijskom rutom (IH YUG),
IZ ZIP    daje korisnike sa zadatim postanskim brojem (IZ 21000).

U vecini WP naredbi dozvoljeni su "dzoker" znakovi.

@@ 14 J|JA|JB|J1|J2|JK

JK daje spisak poslednjih 20 konektovanih stanica,
JA daje spisak poslednjih 20 konektovanih stanica na portu A (JB - port B),
J1 daje spisak poslednjih 20 slusanih stanica na portu A (J2 - port B),
JK CALL daje spisak nekoliko poslednjih konekta stanice CALL,

@@ 14 K|KILL|KM|KK

K  broj1 broj2 .. brise poruke koje ste poslali ili primili. Mozete obrisati
   i ono sto niste procitali od licnih poruka.
KM naredba brise SVE poruke za vas koje ste procitali. Ovo NECE obrisati one
   koje niste procitali.


@@ 14 L|LIST|LB|LM|LN|LL|LS|L<|L>|L@|LU|LR|LC|LD>|LD<

L  lista sve NOVE pristigle poruke/biltene od poslednje primene L naredbe,
LB lista biltene,
LD> GGMMDD lista sve poruke pristigle posle datuma GGMMDD,
LD< GGMMDD lista sve poruke pristigle pre datuma GGMMDD,
LM lista poruke upucene licno vama,
LN lista poruke upucene licno vama koje jos niste procitali,
LL 10 lista poslednjih 10 poruka,
LS <text>  pretrazuje NASLOVE poruka u potrazi za textom <text>,
L< CALL lista poruke koje je poslao CALL,
L> CALL lista poruke za CALL,
L@ lista lokalne biltene bez @ BBS polja,
L@ CALL  lista  @CALL poruke,
L 220- lista samo poruke od 220 pa navise,
L 220-230 lista poruke izmedju 220 i 230,
LU lista sve neprocitane poruke koje ste poslali/primili,
LR lista poruke UNAZAD od najstarije prelistane prema najnovijoj u bbs-u,
LC posebno listanje po vasem uslovu. Prvo zadate uslov na pr.. LC DX i od tada ce
   sve gornje naredbe za listanje (osim LM i LN) listati SAMO poruke poslate
```

```
   za DX. Ako stavite "dzoker" na pr.. LC *DX* onda ce listati sve poruke koje u
   polju "Za" imaju slova DX (VHFDX, DXHF, DXCC...). Za povratak u "obicno"
   listanje ukucajte LC *

   Da dobijete spisak mogucih LC polja ukucajte:   LC ?

@@ 14 M|MH|MV|MA|MVA|MHA

M  <por.br.> <ime> : kopira poruku <br.> u fajl <ime>,
MH <por.br.> <ime> : isto, ali kao kod citanja u formatu R naredbe,
MV <por.br.> <ime> : isto, ali kao kod citanja u formatu V naredbe,

Napomena: sve ove naredbe ce PREPISATI preko starog fajla (ako postoji).

Naredbe: MA, MHA i MVA imaju istu upotrebu, ali nece prepisati stari fajl
nego ce DODATI novi tekst na kraj starog fajla.

@@ 14 N|NAME

Naredbom N mozete upisati ili promeniti svoje ime (do 12 znakova max.).
Na pr.  N Haralampije

Pogledajte jos i: NP, NL, NQ, NZ, NH naredbe.

@@ 14 NH|HOMEBBS|MYBBS

Ovom naredbom upisite svoj maticni ("home") BBS na koji vam dolaze poruke.
Na pr. NH YU7A
Sve licne poruke za vas, koje kasnije stignu, bice upucene na BBS koji ste
naredbom NH odredili.

@@ 14 NP

Za promenu lozinke kod porta za telefonski modem.

@@ 14 NQ

Naredbom NQ upisite svoj QTH (grad ili mesto).

@@ 14 NL

Naredbom NL mozete upisati svoj QTH lokator, sto je vazno za razne proracune
u server modu.

@@ 14 NZ

Naredbom NZ upisite svoj postanski broj. Na pr. NZ 21000

@@ 14 O|OP|OR|OL|ON|OM

Naredba O ispisuje vase licne parametre u ovom BBS i to:

- jezik koji koristite,
- da li je ispis po stranicama i sa koliko linija (pre pitanja: Dalje?),
- bazni broj za poruke,
- zelite li da vidite i tudje licne poruke ili ne (ako sistem dozvoljava),
- zelite li spisak novih poruka za vas odmah po ulasku u BBS.

OL sluzi za izbor jezika na kojem ce BBS komunicirati sa vama.
Otkucajte OL za spisak mogucih jezika, a onda ponovite sa odabranim jezikom.

Na pr. OL 4 za promenu u jezik broj 4 sa spiska mogucih jezika.
```

```
OP sluzi sa formatiranje stranica listanja/citanja.
Podesava nakon koliko linija ce BBS prekinuti ispis i cekati vasu odluku
da: prekinete, idete dalje i slicno. Upisite na pr.. OP 20 za 20 linija pre
pitanja za dalji rad.

Ukoliko ukucate samo OP bez broja, dobijate stalni ispis bez prekidanja.

ON podesava tzv. osnovni (pocetni) broj kod citanja poruka.
Kako ovaj tip BBS-a poruke i biltene razlikuje samo po njihovom broju, koji
stalno raste sa dolaskom novih poruka, ubrzo postane malo nezgodno kucati
na pr.. R 20050 20056 itd. Zato naredbom ON 20000 podesite "bazu" na 20000 i
dalje radite kao da nema tih 20000 tj... od tada kucate: R 50 56 itd. Inace,
naredbe: ON 20 i ON 20000 su ista stvar.

Naredbom OR mozete odabrati da li zelite da citate/listate licne poruke
ostalih korisnika bbs-a. Ako je ukljuceno, moze biti nezgodno ako vam stigne
ispis, recimo 200 komadica nekog fajla koji vas ne zanima.

Naredbom OM, prilikom svakog konekta u bbs, prvo dobijate spisak NOVIH
poruka za vas a zatim uobicajeni bbs prompt.

@@ 14 PG

Naredba PG startuje usluzne programe iz posebnog direktorijuma. PG <enter>
daje samo spisak tih malih programa. Pokretanje nekog od programa sa spiska:
PG <ime_programa_bez_ekstenzije> <parametar_programa_ako_treba> <ENTER>

@@ 14 PS

Naredba PS daje spisak ugradjenih "servera" u ovom BBS-u. Ti serveri nisu
isto sto i tzv. server-mod samog BBS-a. To su posebni programi koji po nalogu
korisnika odrade razne stvari automatski. Sa serverom se komunicira kao i sa
nekim amaterom - slanjem "licne" poruka tom serveru.

Na pr. REQDIR server ce vam spremiti sadrzaj direktorija koji zelite i u vidu
licne poruke za vas uputiti na vas maticni BBS.

Primer:

Naredba: SP REQDIR <enter>
Naslov:  \yapp\*.* @ YU1A <enter>
Tekst:   Ostavite prazno, na kraju: CTRL-Z <enter>

ce vam poslati licnu poruku na bbs YU1A, u kojoj je sadrzaj YAPP
direktorijuma ovog BBS.

@@ 14 R|RM|RN|RU|R>|R<

R <broj>  cita poruku <broj>,
R <broj1> <broj2> itd   cita poruke po navedenim brojevima,
RM cita SVE poruke za vas - i one vec procitane (ne zaboravite na brisanje),
RN cita sve NOVE poruke za vas (samo NEprocitane),
RU cita sve poruke za vas koje jos niste procitali,
R< <poz_znak>  cita sve poruke koje su poslate od strane stanice <poz_znak>,
R> <tekst>  cita sve poruke za pozivni znak ili temu <tekst>.

@@ 14 S|SB|SR|SC|SP

Naredba S se koristi za slanje licnih poruka i biltena:

S SVIMA          za otvorenu poruku samo na ovom BBS (ne ide dalje),
```

```
SB PRODAM @YU    za otvoreni bilten na sve BBS u Jugoslaviji sa temom prodaje,
SP YT7MPB@YU7A   za licnu poruku YT7MPB koja treba da ode/ostane u bbs-u YU7A,
SR <broj>        salje odgovor na poruku <broj>. BBS ce sam da doda sve ostalo
                 u vezi adrese primaoca, kao i "Re:" u naslovu.
SC <broj> <CALL> kopira poruku <broj> za <CALL>. Na pr. dvojici primalaca ide
                 isti tekst. Pre CTRL-Z mozete dopisati neki komentar, a
                 kopija poruke <broj> se sama dopise posle tog komentara.

To je moguce u svim varijacijama (@EU, @YUG, @WW, @YU7 itd.).

@@ 14 T

Naredba T trazi od BBS-a da pozove SysOp-a na razgovor. Nema nikakvog
argumenta, samo T <enter>. Ukoliko SysOp nije prisutan ili se ne javi
na poziv u roku od 1 minuta, dobijate informaciju da mu ostavite poruku.

@@ 14 TH

Izlistava poruke slozene po temama, ranije podesenim u BBS-u.

Na pr. sve poruke, poslate za OS2, DOS, NT4 i sl. mogu da budu u temi OPSISTEMI.

Moguce naredbe su:

H (list themes) - popis tema u bbs-u,
L (list)        - listanje poruka o izabranoj temi,
R msg# (read)   - procitaj poruku broj <msg#> u izabranoj temi,
broj            - idi na teme <broj>.


@@ 14 U

Naredbom U mozete da posaljete neki tekst fajl u BBS. Sintaksa je kao
i kod MS-DOS. Pogledajte i pomoc za D i W naredbe (? D ? W).

@@ 14 V

Naredba V daje kratku informaciju o porukama, verziji BBS programa itd.

Takodje moze da radi i kao naredba R za citanje poruka. Tada prikazuje
zaglavlja sa putanjama i usputnim bbs-ovima, pa pravi daleko veci ispis.

@@ 14 W

Naredba W je nesto kao DIR ili CAT naredba. Dobijate spisak svih fajlova
i direktorijuma koji su na raspolaganju korisnicima. Vaze sva MS DOS
pravila. Primeri:

W
W *.DOC
W \IBM\*.*

@@ 14 WP

WP je interni server BBS-a. To je velika baza podataka o korisnicima stvorena
bilo direktnim upisom podataka od strane samih korisnika, bilo analizom svih
zaglavlja koja prate svaki bilten/poruku. WP sadrzi podatke o pozivnom znaku,
imenu korisnika, postanskom broju i "home"-BBS-u sa H-adresom.

Ukoliko je WP aktivan, mozete bilo kome poslati licnu poruku iako ne znate
koji je njegov "home"-BBS. Ukoliko server ima tu informaciju, sam ce je
dodati, ako je (ponekad) nema - trazice od vas da adresu sami unesete.
```

```
Sa bilo kojeg BBS-a, mozete WP serveru poslati pitanje o nekom korisniku:

Naredba: SP WP @BBS  (@BBS zamenite sa znakom BBS-a sa kojeg zelite odgovor),
Naslov:  unesite neki tekst (nebitno, napr. Info)
Tekst:   YU1A ?      (napr. trazite info o YU1A)
/EX ili CTRL-Z

Takodje je dozvoljeno koristiti i dzokere pa mozete traziti info za
na pr. sve stanice sa prefiksom YT:

YT* ?

Napomena: da bi se smanjio QRM, odgovor ce imati maksimalno 100 redova, bez
obzira koliko ima pravih informacija.

U vezi sa ovim, pogledajte i pomoc za I naredbe (? I).


@@ 14 X

Naredba X prebacuje vas korisnicki status iz "normal" u "expert" i obrnuto.

Status "normal" daje kompletniji i opsirniji odgovor od BBS-a,
Status "expert" daje kratki i sazetiji odgovor od BBS-a.


@@ 14 Y|YAPP|YW|YI|YN|YU|YD|YZ

Sve naredbe koje pocinju slovom Y rade binarni transfer fajlova pomocu tzv.
YAPP protokola.

YW       lista direktorijum programa,
YN       lista "novitete" od poslednje upotrebe naredbe YN,
YU fajl  ubacuje - snima fajl u BBS,
YD fajl  salje vam - "skida" file iz BBS-a,
YI       kao i YW, samo dobijate i kratki opis programa,
YI fajl  daje kratku informaciju o fajlu (ako je upisana kod unosa fajla),
YZ fajl  brise fajl.

YAPP mogu koristiti samo vlasnici racunara sa programom koji sadrze i
taj protokol. Na pr za PC :YAPP, THS, TPK, modifikovani SP, s tim da bi trebalo
upotrebiti prg koji podrzava tzv. RESUME mod. To znaci da kad se veza prekine,
dodjete opet i nastavite tamo gde ste stali. Takvi su prg: TPK, ZACC, PTM,
AUTOYAPP itd.

YAPP se takodje moze upotrebiti iz FbbDOS-a, ali su onda druge naredbe.

@@ 14 Z

Naredba Z brise fajl iz BBS mod-a.

@@ 14 >

Znak > omogucuje da nekom drugom ko je takodje prisutan u BBS-u, posaljete
kratku poruku (jedan red). Nesto kao "Break" u fonijskoj vezi. Primer:
> YT7MPB Hi OC ! Pozovi me kad zavrsis !

Napomena: pre naredbe > pogledajte koga jos ima u BBS-u naredbom !

@@ 14 =
```

```
Znak = daje mogucnost da stupite (kroz BBS) u direktnu vezu s nekim ko je
takodje u BBS-u. Ako nije zauzet necim dobijate odgovor *** Connected to ...
a obe strane mogu prekinuti takvu vezu sa CTRL-Z i vratiti se u BBS-mod.

Primer:
= YT7MPB

Pre toga naredbom ! pogledajte da li je YT7MPB trenutno u bbs-u.

@@ 14 !

Naredba ! daje spisak stanica u BBS i jos poneke informacije o sistemu.

#################
# GATEWAY is 16 #
#################


@@ 16 H|B|K|C|D|J|M|P

Gateway naredbe:

B : bye -diskonekt za drugog, a vas vraca nazad u BBS,
K : converse mod,
C : konekt,
D : diskonekt,
H : pomoc,
J : spisak poslednjih 20 slusanih stanica,
P : direktni skok s porta na port. P1 - idi na port1 (port je sam TNC),
M : monitor on/off,
W : W <fajl> otvara "capture" file, samo W <enter> ga zatvara.

Prvo odaberete port. Ukoliko nije zauzet, bice vam dodeljen i preuzece vas
znak. Kad nekog konektujete, ulazite u "converse" mod (kao i primenom K
naredbe). Povratak u "command" mod je ESC ili:  >  <enter>.

@@ 18 C

C  naredba: ulazite u konferenciju,
CW naredba: ispisuje stanice koje su u konferenciji.

Napomena: sve naredbe u konferenciji pocinju tackom u prvoj koloni!

.C<port> <call>   konektuje stanicu <call> na portu <port>,
.H                daje vam ovaj tekst,
.W                ispisuje spisak stanica u konferenciji,
.Q                izlazite iz konferencije.
```

=====EOF=====

11.2 SRPSKI.TXT

=====BOF=====

```
##############################
# SRPSKI.TXT for FBB 7.00i   #
#    (Serbian text file)     #
# by Misko,YT7MPB   07Jul03  #
##############################
#
```

```
# 255 karaktera max.po liniji.
# ----------------------------
#
# Ne menjajte broj i raspored linija!
#
# Ime jezika - What language is this ?
#
Srpski
OL: Izabrali ste Srpski jezik.$W
#
# Definicija odgovora Da i Ne
#
Da
Ne
#
# Dani i meseci
#
NedPonUtoSreCetPetSub
JanFebMarAprMajJunJulAvgSepOktNovDec
#
# Strane sveta (za QTH-lokator server)
#
Sever
Jug
Istok
Zapad
#
#
#T_MES: Dobrodoslica
#
# za BBS:
#
$O Mailbox, QTH $?.$W
#
# za expert:
#
$O BBS, $c.$WZdravo $I! (prethodni QSO je bio: $x $Y)$WNove poruke su: $Z - $L, aktivnih ima $
#
# normal user
#
$O BBS, QTH $c $?.$WZdravo $I, nalazite se na kanalu $=.$WQSO $d $H (prethodni QSO je bio: $x
#
# Upis podataka
#
Upisite sa N svoje ime (na pr.. N Petar)        : $W
Upisite sa NQ svoj grad (na pr.. NQ Novi Sad)   : $W
Upisite sa NH najblizi BBS (na pr.. NH YU7A)    : $W
Upisite sa NZ postanski broj (na pr.. NZ 21000) : $W
#
#
# za goste:
#
Zdravo $I, na raspolaganju vam je ogranicen izbor naredbi.$W
#
# tekst za onog ko uleti na 'BBS only' port:
#
Ovaj kanal je samo za BBS stanice!  //q $W
#
#  prvi put u BBS-u:
#
Pozdrav za prvi konekt ovom BBS-u!$WOdgovorite na pitanja, snimite HELP i prijatna vam zabava
#
```

```
# poruke za vas:
#
Niste procitali nove poruke za vas: $0 kom.$W
#
# procitane, neobrisane poruke:
#
Naredbom KM obrisite $0 kom. licnih poruka koje ste procitali.$W
#
# bye-bye:
#
U BBS-u ste boravili: $: - CPU vreme: $.$W73! $I, dodjite opet...$W
#
# odgovor na "!"
#
BBS i server F6FBB tipa, ver. $E - $* aktivnih kanala.$W$%$W$N aktivnih poruka - poslednja po
#
# neka standardna pitanja i poruke
#
#T_QST
ENTER = nastavak, A = prekid, C = bez prekidanja, N = sledeca poruka -->
Promeniti  (D/N) ?
Hvala  $I.$W
$WPrekid !!$W$W
Napraviti  (D/N) ?$W
$WVas izbor (L za listu, F za kraj) :
ENTER = nastavak, A = prekid, R broj = procitaj broj ->
#
# poruke o greskama...
#
#T_ERR
*** Greska  $I: Netacan odgovor.$W
*** Greska  $I: Pogresna naredba $0.$W
*** Greska  $I: Zaboravili ste razmak posle naredbe !$W
*** Greska  $I: Samo su brojevi dozvoljeni !$W
*** Greska  $I: Nedostaje tekst posle poz.znaka.$W
*** Zalim   $I, nema pomoci za $0.$W
*** Greska  $I: Nedostaje znak primaoca.$W
*** Greska  $I: Nedostaje znak.$W
*** Greska  $I: Nepoznat fajl.$W
*** Greska  $I: Znak $0 nije dozvoljen ovde.$W
*** Greska  $I: Ne postoji poruka broj %M.$W
*** Greska  $I: Ime fajla $f ne postoji.$W
*** Greska  $I: Ne mozete obrisati poruku %M (ili je vec obrisana)$W
*** Greska  $I: Broj %M ne postoji.$W
*** Greska  $I: Pogresan port.$W
*** Greska  $I: Upotrebite CD naredbu.$W
*** Greska  $I: Polje $0 je predugo.$W
*** Greska  $I: Adresa za $0 je pogresna.$W
*** Zao mi je $I, danas ste vec snimili %dkb. $W
*** Greska  $I: Nema nista !$W
*** Greska  $I: Nedostaje ime fajla.$W
*** Greska  $I: Kako se zove odredisni fajl?$W
*** Greska  $I: Ne govorim taj jezik, a sumnjam da postoji takav!$W
*** Greska  $I: Ne diraj ono sto nisi poslao! (na $f mislim)$W
*** Greska  $I: Nepoznat direktorijum $0 (ili nije prazan).$W
*** Greska  $I: Nema takvog direktorijuma$W
*** Greska  $I: Nemoguce je napraviti direktorijum $0.$W
*** Greska  $I: A gde vam je "path" ?$W
*** Greska  $I: "Path" predug.$W
*** Greska  $I: Taj "path" ne postoji !$W
*** Greska  $I: Nemoguce kreirati fajl $f.$W
*** Vreme isteklo !!!$W
```

```
#
# Tekstovi za pojedine celine
#
# BBS prompt:
#
#T_MBL
#
# expert prompt:
#
($*) $O BBS >$W
#
# gost prompt:
#
($*) $O BBS (B,H,KM,LM,O,RM,SP SYSOP,T,?) >$W
#
# normal prompt:
#
($*) $O BBS (B,C,D,F,G,H,I,J,K,L,M,N,O,PS,PG,R,S,T,U,V,W,X,Y,Z,?) >$W
#
# ostale poruke:
#
Nema takve poruke (filter za listanje je (LC): $l).$W
Nema novih poruka za vas.$W
Naslov poruke za %G (max. 30 slova):$W
Tekst poruke, zavrsite sa Ctrl-Z ili /EX u novom redu : $W
Poruka %M je obrisana.$W
#
# odgovor na V naredbu:
#
Program F6FBB v.$E, $N aktivnih poruka, poslednja poruka je $L.$W
#
# ostale poruke
#
Upisite svoje ime :$W
Ime je upisano  kao $I... Hvala. $W
#
# Novo u 5.15c5: Slovo I
# Novo u 7.0b20: Slovo F
Call      Zadnji conn #ukup RPBSXLFEMUI Ime          Password     PRIV-dir.$W
$V nije prisutan, mozete da mu ostavite poruku (SP SYSOP).$W
Pricekajte malo dok pozovem SysOp-a .....$W
$V nije u blizini. Pozovite ga ponovo (T) ili mu ostavite poruku (SP SYSOP).$W
$V je na vezi:$W
Molim vas pricekajte, SysOp bi da razgovara s vama.$W
Ekspertni mod. Otkucajte: X <enter> za povratak u Normal mod.$W
Normalni mod. Otkucajte: X <enter> za povratak u Ekspert mod.$W
Server mod. Otkucajte: F <enter> za povratak u BBS mod.$W
Datoteka $f je kopirana.$W
Poruka za $G je ponistena (nije bilo naslova).$W
OP: kontinuirani ispis.$W
OP: $p linija po stranici (pre pitanja za nastavak).$W
Korisnik je konektovan, editovanje nije moguce.$W
$0 $1 $2 $3 $j $K = $4'$5
#
#
ON: osnovni broj za poruke : $0 (dodaje se broju koji unesete).$W
#
#
(B)id, (F)rom, (V)ia=@BBS, (T)o, T(I)ttle, (S)tatus, T(Y)pe, (Cr)End >$W
R,P,B,S,X,L,E,M,U $W(N)ame,pass(W)ord,lan(G)uage,pri(V)-dir,(H)omeBBS (Z)ip-code >$W
Znak $0 je nepoznat. Da ga kreiram (D/N) ?
Obrisati $0 (D/N) ?
```

```
Moguci jezici su:$W
($0):$1
$W--- Kraj poruke $M  za  $G od $P  ---$W$W
Poruka $0$WW
#
# zaglavlje kod citanja poruka:
#
Poruka od   : $P$WZa          : $G$0$WTip/Status  : $t$s$WDatum/vreme : %j %K$WBid/Mid     : $
#
# zaglavlje kod listanja poruka:
#
Vas filter za listanje (LC) je: $l$W$WPor#   TSLD  Duz  Za    @ BBS   Od       Datum      Tema
#
# sadrzaj svake  linije kod listanja poruka:
#
$M $t$s$r%r $n $G$0 $P %i $1$W
Naslov      : $S$W$W(Do sada vec procitana %C puta u ovom BBS-u)$W$W
Bid (Mid) : $R$W
Poslata prema:
$0 ruta prema $v$W
#
# prompt za fwd
#
F>$W
>$W
#
# poruke tokom fwd
#
NO - pogresan parametar$W
NO - BID$W
OK $W
*** Done$W
Poruka #%M  Duz : $n$W
Nemam forward prema $A, SysOp ce to da sredi.$W
Upisite odgovor za $G @ $v$W
###############################################################################
# New texts for 5.14
OR: Pristup svim licnim porukama$W
OM: Ispis novih licnih poruka za vas po ulasku u BBS : $0$W
Upisite pozivni znak BBS-a na koji zelite da vam se salju poruke:$W
Upisite svoj postanski broj :$W
HomeBBS : $0$W     Post.br : $1$W
# umesto ovog dole mozda ubaciti "Upozorenje ! Nema WP-rute prema $G$W
Nema WP-rute prema %G. Pritisnite ENTER za prekid i ponovo adresirajte.$W
###############################################################################
Trenutno ima $0 zadrzanih poruka$W
(A)rchive,(K)ill,(L)ocall,(Q)uit,(R)ead,(V)erbose,(U)nhold ?
#
# Traitement
#
# T_TRT
############################################################################
# Line added from 515c45
Poruka je prihvacena i zadrzana na uvid SysOp-u pre razmene.$W
###############################################################################
*** Zauzet(o), molim pricekajte...$W
*** Zauzet(o), nema konekta trenutno....$W
*** $0 nije konektovan..$W
$W$B*** Connected to $0 kroz BBS (prekid sa Ctrl-Z).$W
*** Disconnected$W
*** Trenutna poruka  ("break") od $0 *** (odgovor sa:  > $0 tekst...)$W
*** Kraj poruke ("break") ***$W
```

```
Mali prekid za poruku od $0.$W
Zahtev "Stop" je zatrazen od $0. Code : $1$W
Zahtev "Stop" je prihvacen, nema konekta.$W
Zahtev "Reset" je prihvacen, inicijalizujem.....$W
ENTER=nastavi  A=prekid -->$W
Zahtev za prekid je odbijen.$W
BBS mod. Otkucajte: F <enter> za povratak u server mod.$W
#
# server meni
#
# T_MEN
#
$WSERVER (B,C,D,F,N,Q,T,?=pomoc) >$W
$W
$W(C) Connect-statistika$W(D) Dokumenti, informacije$W(N) Callbook$W(Q) QTH-LOC$W(T) Sateliti$
#
# statistika
#
# T_STA
$WSTATISTIKA (G,H,I,J,L,O,F,B ?=pomoc) >$W
$W
$W(G) Ukupno$W(H) Zauzece po satima$W(I) Poz. znaci$W(J) Zauzece po danima$W(L) Detaljna conn
Zauzece po danima$W
  PON  UTO  SRE  CET  PET  SUB  NED$W
Zauzece po satima$W
0 0 0 0 0 1 1 1 1 1 2 2  Sati$W
0 2 4 6 8 0 2 4 6 8 0 2$W
$N Aktivnih poruka$W
Konekta od $j: $0$W
Konekti$W  Prosecno trajanje   : $0min $1s$W
  Pros. conn. dnevno   : $0$W
  Najveca guzva        : u $0 i $1 sati$W
Zauzece u % $W
  BBS                  : $0 % $W
  SERVER               : $0 % $W
SERVER detaljnije:$W
  DOS                  : $0 % $W
  QTH lokatori         : $0 % $W
  Dokumentacije        : $0 % $W
  Conn. statistika     : $0 % $W
  Callbook             : $0 % $W
  Sateliti             : $0 % $W
$0 $1 $2 $3 $j $K = $4'$5"$W
#
# callbook deo
#
#T_NOM
#
$WCALLBOOK (I,N,R,F,B  ?=pomoc) >
$W
$W(I) Spisak svih znakova$W(N) Promena ili upis tvojih podataka$W(R) Citanje podataka drugih$W
$WPoz.znak: $0$W
$WPrethodni conn. $j u $K$W
Ime i prezime: $1 $0$WAdresa       : $2,$3$WQTH LOC      : $4. $WTlf,kucni    : $5 $WTlf,posa
Prezime          :$W
Ulica i broj     :$W
Grad/mesto       :$W
Telefon u stanu  :$W
Telefon na poslu :$W
QTH LOC          :$W
$WUkupno: $0 poz.znakova$W
*** Znak $0 nepoznat.$W
```

```
*** Neispravan QTH LOC !$W
#
# sateliti
#
#T_TRJ
#
$WSATELITI (C,P,T,F,B  ?=pomoc) >
$W(M) Promene parametara$W
$W(C) Karakteristike$W(P) Orbitalni parametri$W(T) Orbite$W(F) Povratak u SERVER-MENI$W(B) Dis
$WLokator : $0    Satelit $1$W
--------------------------------------------------------------$W
| Time  | Az. | El. | Dpl. | Dist. | Alti. | Lon | Lat | Ph. |$W
|  UTC  | Deg | Deg | KHz  |  Km   |  Km   | Deg | Deg | 256 |$W
--------------- $j-$a ------ Orbite #$0 ---------------$W
| $0:$1 | $2 | $3 | $4 | $5 | $6 | $7 | $8 | $9 |$W
Unesite datum za proracun (dd/mm/gg) :
Unesite vreme za proracun  (HH:MM)   :
$WMolim pricekajte...$W
$WNemam informacija za taj satelit.$W
Izmene od $j-$y.$W
Ime satelita        :
Referentna orbita   :
Referentna godina   :
Referentni dan      :
Mean anomaly        :
Arg. of perigee     :
R.A.A.N.            :
Inclination         :
Eccentricity        :
Mean motion         :
Derived mean motion :
Estimated step      :
Doppler frequency   :
$WOrbitalni parametri za $0$W
Broj orbite         : $0$W
Epoch year          : $0$W
Epoch day           : $0$W
Mean anomaly        : $0$W
Arg. of perigee     : $0$W
R.A.A.N.            : $0$W
Inclination         : $0$W
Eccentricity        : $0$W
Mean motion         : $0$W
Derived mean motion : $0$W
Estimated step      : $0$W$W
($0) $1
(F) Kraj$W
#
# qth lokatori
#
#T_QRA
#
$WQTH-LOKATOR (C,D,L,Q,F,B  ?=pomoc) >
$W
$W(Q) QTH -> duz.i sir.$W(L) duz.i sir. -> QTH$W(D) QRB i azimut$W(C) QRB sabirnica$W(F) Povra
$WQTH Lokator :
Koordinate u centru polja :$W
Duzina : $0 step. $1' $2 : $3 grad. $2$W
Sirina : $0 step. $1' $2 : $3 grad. $2$W
$WRadni format$WU stepenima    : 1 : 45 : 00 (smer).U gradijanima   : 1.5 (smer)$W(smer) zamen
$WDuzina (Istok/Zapad)  (F,Q=kraj) :
$WSirina   (Sever/Jug)  (F,Q=kraj) :
```

```
$WQTH Lokator   (F,Q=kraj) : $0$W
$WOd QTH LOC    (F,Q=kraj) :
$WDo QTH LOC    (F,Q=kraj) :
Azimut    : $0 step. $1'$W
Udaljenost: $0 Km$W
$WVas QTH Lokator (F,Q=kraj) :
$WDo QTH LOC ?    (F,Q=kraj) :
Proracun br. $0 - Ukupna udaljenost: $1 Km$W
Kraj proracuna.$W
#
# Modul DOS
#
#T_DOS
#
$W$u:$0>$W
Direktorijum $0 obrisan.$W
Fajl ne postoji.$W
$0 $1 $2 $3   $4 $5 $6 $7$W
Prekinut upis $f.$W
Fajl $f je snimljen ($0 bytes).$W
Unesite fajl $f (kraj = Ctrl Z).$W
$0 bytes kopirano.$W
$W$j $T  FBBDOS V$E$W$WPomoc u FBBDOS-u dobijate sa: H <enter>.$W$WDownload u toku danasnjeg c
$WMoguce naredbe su:$W
Fajl $f obrisan.$W
$0 bytes slobodno.$W
#
# Modul dokumentacija
#
#T_INF
#
$WDOC (#,R,B,F  H=pomoc) : >
$W(D) Label
$W(L) Lista$W(broj) Cita doc. broj$W(R) Nazad na prethodni nivo$W(B)  Disconn.$W(F) Povratak u
Ne postoji !!
#
#  gateway
#
#T_GATE
#
Sada ste na kanalu $=, port $!. $g dostupnih portova.$WH = pomoc. Q = Bye.$W
Broj porta (Q = Bye) :
Kanal $0 dodeljen na $1.$W
Nema slobodnih kanala na tom portu.$W
Cmd :
Konvers mod. Esc ili > (return) za command mod.$W
*** Greska $I: Vec ste na tom portu!$W
*** Greska $I: Pogresan port.$W
*** Gateway nije dostupan.$W
#
$O: Pogresna naredba $0. (B,C,D,J,K,H,M,P,?)$W
Saljem $f...$W
Otvoren $f log fajl.$W
Zatvoren $f log fajl.$W
#
# Modul YAPP
#
#T_YAP
#
Spreman za slanje $f $0 protokolom.$W
Spreman za prijem $f $0 protokolom.$W
Zalim, $0 nije moguc na ovom portu.$W
```

```
Kratak opis fajla (40 znakova max) :
$0 $1 $2 $3   $4$W
#
#  KONFERENCIJA
#
#T_CNF
#
Nalazite se u konferenciji (Pomoc= ".?").$W
$H. Stanice u konferenciji :$W
Call: $0, kanal $1.$W
$H $0 ulazi u konferenciju.$W
Izlazite iz konferencije.$W
$H $0 napusta konferenciju.$W
[$H - $0]$W
Nema nikog drugog u konferenciji.$W
$H $0 : Retry count exceeded.$W
$H $0 busy.$W
$H $0 nije u konferenciji!$W
#
###########################################################
# New in 5.15c5:
# T_THE : Module THEMES.
#
Poruka   Duz  Za     Od     Naslov     (Tema :%T)$W
$M%r $n $G $P $1$W
%T - %t biltena (B,F,H,L,R,broj) :
#############################################################
```

=====EOF=====

In order to add Serbian to your FBB, you have to add/change a couple of lines within your **LANGUE.SYS** like in the following example:

=====BOF=====

```
#
# File that decides what language each user will use in the first
# connect.  He can change language himself later...
# All prefixes not listed here, will receive language no 1 (English).
# 3 parametres :
# Number of languages - Number in PC at the time - Console-language.
13 2 1
#
ENGLISH
FRANCAIS
ESPAGNOL
ITALIANO
NEDERLAN
DEUTSCH
CATALA
NORSK
PORTUGUE
DANSK
SVENSKA
HRVATSKI
SRPSKI
#
# 1 : English
# 2 : French
# 3 : Spanish
```

```
# 4 : Italian
# 5 : Dutch
# 6 : German
# 7 : Catalan
# 8 : Norwegian
# 9 : Portuguese
# 10: Danish
# 11: Swedish
# 12: Croatian
# 13: Serbian
#
9A*     12
C3*     7
CT*     9
CU*     9
DU*     1
D*      6
EK*     1
E?3*    7
E?5*    7
E?6*    7
E*      3
F*      2
H*      2
I*      4
LA*     8
ON1A*   5
ON1B*   5
ON1C*   5
ON1K*   2
ON4*    2
ON5*    2
ON6*    2
ON7*    2
ON8*    1
ON9*    1
OZ*     10
PY*     9
P*      5
SK*     11
SM*     11
TU*     2
TK*     2
VE2*    2
YU*     13
YT*     13
YZ*     13
4N*     13
4O*     13
#
3A*     2
3B*     2
#
```

=====EOF=====

12. How to make better ham radio rules?

2003-10-26

Notice: Gentle folks, here I am going to discuss some rules'n'regulations issues that we, radio amateurs, face to every day. These problems make rather significant obstacles for this nice alternative way of communication to be more developed and more widely used.

First of all, anybody who might be interested in running Linux amateur radio software, as a way of using radio amateur stations on the international HF waves, in a *digital* manner, has to learn **manual** ***analog*** Morse telegraphy and pass the similar **manual** Morse skill test. For a long time now, I have been trying to explain myself, why manual Morse telegraphy is still being kept as the legal requirement without an amateur is not allowed to use HF radio frequencies under 30 MHz, in order to contact Linux and other remaining ***digital*** radio amateurs world-wide. I still have no answer to that question, except that all of those who have wasted lots of time learning Morse, now don't want to allow newcomers to use the same capabilities - but without the same (useless) test!

You all know, there are so many Linux enthusiasts world-wide (including myself) who have been fighting against all types of **monopols** (like a company from Redmond, USA). The Morse obligatory test is the same: just another type of a **monopoly!**

That's why I have been trying to persuade all relevant authorities to **remove** such outdated regulatory principles, that make more and more obstacles for not only Linux users, but for other kinds of computer users - when it comes to the modern ICT technologies. I hope, all of you, readers of this mini-HOWTO, can understand now what does it mean to use outdated rules and regulations endlessly . For example, I often contact various people from the academic world, either students or scientists, in order to motivate them to join amateur radio wireless activities. They mostly refuse to think about the amateur (also called *"ham"*) radio, as soon as they hear they have to pass the Morse test, as the legal requirement *before* they become allowed to connect to remote **computing** radio users world-wide, using the HF radio bands and devices.

What I am sure, the absence of those high educated people within the digital ham radio is one of the most negative consequences in the ICT areas today!

I have been thinking what to do since the early ninetees, when I was the secretary of *YU7* (Vojvodina province in Serbia) amateur radio union. It seemed to me that it was a very hard task to persuade the people who govern the amateur radio organizations, to remove such outdated rule. When I realized that removing the mandatory manual Morse test seemed to be almost impossible to be expected in a short period of time, I decided to suggest the implementation of another regulatory principle. It should be a major innovation: To make a new type of the amateur radio license, a **H**am **D**igital **L**icence (the **HDL** in short). The HDL licensees would be allowed to use *all* amateur radio frequencies, including *all* international HF bands under 30 MHz. But, they rather should be allowed to use *only* **digital** sub-bands and types of the amateur radio emissions a.k.a. "modes", including the usage of computers, equipped with the LinFBB packet radio software. Besides that, the HDL holders may only use modified and/or dedicated radio transmitters, without the capability for both voice microphone and Morse key connections, in order to avoid possible misuse of unwanted amateur activities (like voice SSB operations).

All HDL candidates should have to learn topics like computer hardware and software in general (operating systems and system software configuration, amateur radio software setup etc), connecting the amateur radio stations to the computers (connecting radio modems to the transmitters etc), building simple antennas (like 1/2 wave wire dipole for 20m that I used long ago), the English language (or German etc) in the written exam etc.

The Morse requirement would not be used anymore, as well as some other obsolete tests, like highly complicated radio circuits or skills needed for building home-brew radios from the scratch (instead of buying modern factory manufactured devices). Of course, the regulatory issues should also be tested (like band plans - in particular recognizing the sub-bands dedicated for **digital** ham radio). Next are RFI issues and how to avoid them etc.

I believe that amateur radio *digital* activities have their future only if we all do our best to improve the regulatory principles that govern this fine hobby. You should also know that, besides the telegraphy skill requirement for an HF access, here in Serbia we have some further restrictions: we all have to be the members of the national amateur radio unions (SRV union in YU7 province and SRS union in Serbia in whole), as the legal requirement, **before** we become allowed to use *any* type of the amateur radio activities. Such a nonsense does not exist elsewhere!

Should you want help us to adopt internationally known principles, that do NOT require to join *any* type of the amateur radio organizational system, i.e. the amateur radio society (that only wants to get our membership money), you are invited to lobby for us. Our conservative amateur society leadership also has their email address: yu0srj@eunet.yu (I suppose they may have more than one email address, but you may try to use this one). You may also use an Internet search engine and scan for information related to "Savez radio amatera Jugoslavije" and "Savez radio amatera Srbije". Your help would be highly appreciated. Case you need more info regarding our national legal issues, do not hesitate to contact me.

If you find yourself interested enough in making amateur radio rules and regulations better and more updated (say to spread the idea of liberalize the whole ICT areas and make them free of any kind of monopols), I would suggest you to look for your national radio amateur society and/or national telecommunication regulatory agency (like FCC in the USA). Lobby to them in order to remove the obsolete manual Morse proficiency test. In addition, should you have some opportunities to attend to some ICT meetings and conferences or something like that, you are also invited to let me know.

Case we all do our best to remove obstacles mentioned above and allow the new people, who may wish to enjoy the amateur radio digital and Linux-related operations, to do so, the technology would become the part of more homes. I hope you, the readers, may help. So I look forward to hear from you soon!

---

13. Bibliography

2010-07-18

Notice: I often participate in various (inter)national ICT conferences in Serbia and abroad, presenting technical papers and delivering half-day and full-day tutorials, covering basic ideas and useful mission of the amateur radio hobby and its possible usage in engineering education. What I have been doing is to spread - as much as possible - the knowledge about existing open source products, including Linux and amateur radio free software. Besides that, I have been writing various articles for a variety of scientific and other magazines. Here you have the list of those articles and paper topics submitted to the conferences.

In case you want to re-publish or forward my volunteer paper works to some journals or other public media around, you are free to contact me. Some of my papers are written in Serbian Cyrillic, some of them are in English and some of them even combined!


```
 - "U prilog I.A.C.", MI (the youth scientists' organization
    newspaper), No. 69, 1990.

 - "U prilog I.A.C. (2)", MI (the youth scientists' organization
```

```
   newspaper), No. 70, 1990.

- "Vise od radio-amaterskog hobija", Vojska, No. 163, 1995.

- "Korak ka zvezdama", Vojska, No. 200, 1996.

- "Die Gefahr von Innen - Internet gegen Amateurfunk",
   AMSAT-DL Journal, No. 4, Dez./Feb. 96/97.

- "Kakva nam organizacija (ne) treba?", Radioamater,
   Feb. 1997.

- "Kakva nam organizacija (ne) treba? (2)", Radioamater,
   Apr./May. 1997.

- "Sateliti umiru padajuci", Vojska, No. 235, 1997.

- "The Internet is not the Enemy", QST, Aug. 1998.

- "Novi radio-amateri za novi vek", Antena, June 2000.

- "Racunarske komunikacije putem radio-veza i
   zastita pristupa", Bezbednost, No. 3, 2000.

- "Paket-radio - Racunarske komunikacije putem radio-veza",
   proceedings, "Info-Teh", Vrnjacka Banja, Serbia, 2001.

- "Racunarske komunikacije putem radio-amaterskih veza",
   proceedings, "YU-Info", Kopaonik, Serbia, 2002.

- "Computer Communications over radio", presentation,
  "Linux FEST", Belgrade, Serbia, 2002.

- "Paket-radio - Radio-amaterske digitalne veze",
   proceedings, "Kongres JISA", Herceg Novi, Montenegro, 2002.

- "Paket-radio (2) - Modemi za radio-veze",
   proceedings, "Info-Teh", Vrnjacka Banja, Serbia, 2002.

- "Alternativne racunarske mreze", festival catalog,
  "INFOFEST", Budva, Montenegro, 2002.

- "Alternative computer networks", proceedings, "TELFOR",
   Belgrade, Serbia, 2002.

- "With rule and regulation improvements to the progress"
   proceedings, "TELFOR", Belgrade, Serbia, 2002.

- "Racunarske komunikacije putem radio-amaterskih veza (2)",
   proceedings, "YU-Info", Kopaonik, Serbia, 2003.

- "Racunarske komunikacije putem radio-amaterskih veza (3)",
   proceedings, "YU-Info", Kopaonik, Serbia, 2003.

- "Paket-radio (3) - Programske mogucnosti na strani servera",
   proceedings, "Info-Teh", Vrnjacka Banja, Serbia, 2003.

- "Paket-radio (4) - Legal rules and regulations in the amateur
   computer networks", proceedings, "Info-Teh", Vrnjacka Banja,
   Serbia, 2003.

- "Packet-radio (2) - With rule and regulation improvements to the progress",
```

proceedings, "Kongres JISA", Herceg Novi, Montenegro, 2003.

- "Alternativne racunarske mreze (2)", festival catalog, "INFOFEST", Budva, Montenegro, 2003.

- "Alternativne racunarske komunikacije putem radio-veza", Info M, 6-7/2003.

- "Legal Rules and Regulations in the Amateur Radio Computer Networks", proceedings, "22nd ARRL and TAPR Digital Communications Conference", Hartford, CT USA, 2003.

- "Favoritism", IEEE Potentials, Oct/Nov 2003

- "Alternative computer networks (2)", proceedings, "TELFOR", Belgrade, Serbia, 2003.

- "With rule and regulation improvements to the progress (2)" proceedings, "TELFOR", Belgrade, Serbia, 2003.

- "XI Telekomunikacioni forum - TELFOR 2003", Info M, 8/2003.

- "Aktivnosti organizacije IEEE Computer Society - YU Chapter" Info M, 8/2003.

- "Yugoslavia IEEE Student Branch", IEEE Region 8 News, Vol. 7 No. 1, Feb/Mar 2004

- "Radio-amaterske racunarske mreze", tutorial, "Info-Teh", Vrnjacka Banja, Serbia, 2004.

- "Radio-amaterske racunarske mreze", tutorial, "Kongres JISA", Herceg Novi, Montenegro, 2004.

- "The Amateur Radio as a Learning Technology in Developing Countries", proceedings, "ICALT/TEDC 2004", Joensuu, Finland, 2004.

- "The Amateur Radio in Engineering Education", seminar, "IEEE-EESTEC Technical Conference 2004", Arcavacata di Rende (Cosenza), Italy, 2004.

- "The Conference Low-Down", IEEE Potentials, Feb/Mar 2005

- "ICALT 2004, IEEE Novi Sad SB, Serbia & Montenegro", IEEE Region 8 News, Vol. 8 No. 1, Mar 2005

- "The Conference Low-Down", IEEE Potentials, Apr/May 2005

- "The Amateur Radio Networking And Computing", proceedings, "PSU-UNS ICEE 2005", Novi Sad, Serbia, 2005

- "Radio-amaterske racunarske mreze", tutorial, "Info-Teh", Vrnjacka Banja, Serbia, 2005 (intro: dr D. Surla, PMF)

- "Radio-veze", round table session, "Kongres JISA", Herceg Novi, Montenegro, 2005.

- "The New Amateur Radio University Network - AMUNET", proceedings, "9th WSEAS CSCC Multiconference", Vouliagmeni, Athens, Greece, 2005.

```
- "The perspectives of the Amateur University Network -
  AMUNET", WSEAS Transactions on Communications, Vol 4,
  pp 834, Sep. 2005.

- "Conferences in Serbia and Montenegro", IEEE Region 8 News,
  Vol. 8 No. 3, Sep 2005.

- "The Conference Low-Down", IEEE Potentials, Dec 2005

- "Divided We Fall", The Institute, IEEE, Dec 2005

- "University Networking Through the Amateur Radio Communications",
  plenary lecture, "3rd WSEAS/IASME Int. Conf. on Engineering
  Education", Vouliagmeni, Athens, Greece, 2006.

- "The New Amateur Radio University Network - AMUNET (Part 2)",
  proceedings, "10th WSEAS CSCC Multiconference",
  Vouliagmeni, Athens, Greece, 2006.

- "University Networking Through the Amateur Radio Communications",
  tutorial, "10th WSEAS CSCC Multiconference",
  Vouliagmeni, Athens, Greece, 2006.

- "Education in Peril", The Institute, IEEE, Sep 2006

- "The Conference Low-Down", IEEE Potentials, Dec 2006

- "Amateur Radio in Engineering Education", tutorial, "Info-Teh",
  Vrnjacka Banja, Serbia, 2007.

- "Paket-radio (5) - Programske mogucnosti na strani klijenta",
   proceedings, "Info-Teh", Vrnjacka Banja, Serbia, 2007.

- "Summer Schools on the Amateur Radio Computing", proceedings,
  "12th Annual Conference on Innovation & Technology in Computer
   Science Education", ACM ITiCSE 2007, Dundee, Scotland, 2007.

- "Amateur Radio in Engineering Education", tutorial, "EUROCON",
  Warsaw, Poland, 2007.

- "Bringing New Life in Old Computers", proceedings, "26th ARRL
  and TAPR Digital Communications Conference", Hartford, CT USA,
  2007.

- "The Conference Low-Down", IEEE Potentials, Sep/Oct 2007

- "My trip to Eurocon - a member's view", IEEE Region 8 News,
  Vol. 10 No. 3, Dec 2007.

- "Amateur Radio in Engineering Education", tutorial, "Info-Teh",
  Vrnjacka Banja, Serbia, 2008.

- "Paket-radio (6) - Privatnost podataka i zastita ucesnika u
  radio-amaterskim mrezama", proceedings, "Info-Teh", Vrnjacka
  Banja, Serbia, 2008.

- "Amateur Radio in Engineering Education",
  tutorial, "5th WSEAS/IASME Int. Conf. on Engineering
  Education", Heraklion, Crete, Greece, 2008.

- "The New Amateur Radio University Network - AMUNET (Part 3)",
  proceedings, "12th WSEAS CSCC Multiconference",
```

```
  Heraklion, Crete, Greece, 2008.

- "Amateur Radio Telecommunications and Networking in Education",
  tutorial, "IARIA ICWMC 2008", Vouliagmeni, Athens, Greece, 2008.

- "The Conference Low-Down", IEEE Potentials, Sep/Oct 2008

- "Amateur Radio in Engineering Education", workshop,
  "TELFOR", Belgrade, Serbia, 2008.

- "Amateur Radio: More than a hobby!", tutorial,
  "IAENG IMECS 2009", Hong Kong, China, 2009.

- "Wasted Gear", IEEE Computer, Feb 2009

- "Amateur Radio: More than a hobby!", tutorial,
  "6th WSEAS/IASME Int. Conf. on Engineering Education",
  Rodos, Greece, 2009.

- "The New Amateur Radio University Network - AMUNET (Part 4)",
  proceedings, "13th WSEAS CSCC Multiconference",
  Rodos, Greece, 2009.

- "Amateur Radio in Education", book chapter in "Handbook of
  Research on Human Performance and Instructional Technology",
  ISBN: 978-1-60566-782-9, October 2009

- "Surveillance as a service", IEEE Computer, Dec 2009

- "Amateur Radio: More than a hobby!", tutorial, IEEE
  "ICACT 2010", Phoenix Park, Korea, 2010.

- "Amateur Radio: More than a hobby!", tutorial, DIRF
  "NDT 2010", Prague, Czech Republic, 2010.
```


Besides the published articles and presented works, I am also a member of the following associations: IEEE Computer Society, IEEE Communications Society, WSEAS and ACM. In addition, I work on establishing an academic computer network that would use the amateur radio stations as the media. Some kinds of proposed networks exist elsewhere on this planet and I invite their administrators to contact me in order to cooperate.

---

14. Further information

14.1 Copyright

14.2 Disclaimer

Use the information in this document at your own risk. I disavow any potential liability of this document. Use of the concepts, examples, and/or other content of this document is entirely at your own risk.

All copyrights are owned by their owners, unless specifically noted otherwise. Use of a term in this document should not be regarded as affecting the validity of any trademark or service mark.

Naming of particular products or brands should not be seen as endorsements.

You are strongly recommended to take a backup of your system before major installation and backups at regular intervals.

14.3 News

This is not the first release of this mini-HOWTO. I hope to improve it whenever possible. Besides that, there are other documents that may help you to use amateur radio stuff on your computer. You can also look for AX.25 (mini-)HOWTO at the same location where you get this FBB mini-HOWTO.

This mini-HOWTO would be improved from time to time. If you think that the HOWTO on your Linux installation CD is some out-of-date, you may check for newest release on the Internet. It could be found within the main Linux Documentation Project or some of its mirrors.

14.4 Credits

This version of mini-HOWTO can thanks to:

```
Jean-Paul Roubelat, F6FBB, the author of FBB,
Per Olsen, LA6CU, the author of FBB documentation,
Jesus R., EB5AGF, the author of Protus,
Jose Marte, HI8GN, the 'packer' of 7.02g package,
Paula Dowie, G8PZT, the author of Xrouter,
Sima YT1SM, first Serbian translation HLP and TXT (v.5.15c)
Sasa 4N7AM, first Serbian translation HLP and TXT (v.7.00b)
Dragomir Kalaba, a local Linux 'guru'

and a variety of helpful radio amateurs world-wide.
```

Any comments or suggestions can be mailed to my email address: skoric at eunet dot rs

14.5 HOWTO

These are intended as the primary starting points to get the background information as well as show you how to solve a specific problem. Some relevant HOWTOs are `Bootdisk`, `Installation`, `SCSI` and `UMSDOS`. The main site for these is the LDP archive at Metalab (formerly known as Sunsite).

14.6 Mini-HOWTO

These are the smaller free text relatives to the HOWTOs. Some relevant mini-HOWTOs are `Backup-With-MSDOS`, `Diskless`, `LILO`, `Large Disk`, `Linux+DOS+Win95+OS2`, `Linux+OS2+DOS`, `Linux+Win95`, `Linux+WindowsNT`, `Linux+NT-Loader`, `NFS-Root`, `Win95+Win+Linux`, `ZIP Drive`, `FBB packet-radio BBS` etc. You can find these at the same place as the HOWTOs, usually in a sub directory called `mini`. Note that these are scheduled to be converted into SGML and become proper HOWTOs in the near future.

14.7 Local Resources

In most distributions of Linux there is a document directory installed, have a look in the /usr/doc directory. where most packages store their main documentation and README files etc. Also you will here find the HOWTO archive (/usr/doc/HOWTO) of ready formatted HOWTOs and also the mini-HOWTO archive (/usr/doc/HOWTO/mini) of plain text documents.

Many of the configuration files mentioned earlier can be found in the /etc directory. In particular you will want to work with the /etc/fstab file that sets up the mounting of partitions and possibly also /etc/mdtab file that is used for the `md` system to set up RAID.

The kernel source in /usr/src/linux is, of course, the ultimate documentation. In other words, *use the source, Luke*. It should also be pointed out that the kernel comes not only with source code which is even commented (well, partially at least) but also an informative documentation directory. If you are about to ask any questions about the kernel you should read this first, it will save you and many others a lot of time and possibly embarrassment.

Also have a look in your system log file (/var/log/messages) to see what is going on and in particular how the booting went if too much scrolled off your screen. Using `tail -f /var/log/messages` in a separate window or screen will give you a continuous update of what is going on in your system.

You can also take advantage of the /proc file system that is a window into the inner workings of your system. Use `cat` rather than `more` to view the files as they are reported as being zero length. Reports are that `less` works well here.

14.8 Web Pages

There is a huge number of informative web pages out there and by their very nature they change quickly so don't be too surprised if these links become quickly outdated.

A good starting point is of course the Linux Documentation Project home page, or this one: Linux Documentation Project, an information central for documentation, project pages and much, much more.

Please let me know if you have any other leads that can be of interest.

---

15. Getting help

In the end you might find yourself unable to solve your problems and need help from someone else. The most efficient way is either to ask someone local or in your nearest Linux user group, search the web for the nearest one.

Another possibility is to ask on Usenet News in one of the many, many newsgroups available. The problem is that these have such a high volume and noise (called low signal-to-noise ratio) that your question can easily fall through unanswered.

No matter where you ask it is important to ask well or you will not be taken seriously. Saying just *my disk does not work* is not going to help you and instead the noise level is increased even further and if you are lucky someone will ask you to clarify.

Instead describe your problems in some detail that will enable people to help you. The problem could lie somewhere you did not expect. Therefore you are advised to list up the following information on your system:

Hardware

- Processor
- DMA
- IRQ
- Chip set (LX, BX etc)
- Bus (ISA, VESA, PCI etc)
- Expansion cards used (Disk controllers, video, IO etc)

Software

- BIOS (On motherboard and possibly SCSI host adapters)
- LILO, if used
- Linux kernel version as well as possible modifications and patches
- Kernel parameters, if any
- Software that shows the error (with version number or date)

Peripherals

- Type of disk drives with manufacturer name, version and type
- Other relevant peripherals connected to the same buses

Remember that booting text is logged to `/var/log/messages` which can answer most of the questions above. Obviously if the drives fail you might not be able to get the log saved to disk but you can at least scroll back up the screen using the `SHIFT` and `PAGE UP` keys. It may also be useful to include part of this in your request for help but do not go overboard, keep it *brief* as a complete log file dumped to Usenet News is more than a little annoying.