# Linux HAM-HOWTO, Amateur Radio.

Terry Dawson, VK2KTJ, terry@perf.no.itg.telstra.com.au v2.3, 1 April 1997

It is hoped that this document will assist Amateur Radio operators in finding and trying the various amateur radio software that has been written for or ported to Linux. It is also hoped that as a consequence of this information being available that more amateur radio operators will choose Linux as the platform of choice for their experimentation, and that software developers will choose Linux as the platform for their software development, further expanding the role of operating systems like Linux in the Amateur Radio field.

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# 1 Introduction.

This list was prompted by comments that had been expressed in the various Linux newsgroups about the number of amateur radio operators that were involved with Linux. It is now clear that Linux is becoming a popular platform for Amateur Radio development work.

This list was originally called the RADIOLINUX list, but has been moved into the Linux Documentation Project HOWTO collection, so it has been renamed the HAM-HOWTO. I make no apologies for the name.

## 1.1 Changes from the previous version

```
Additions:
        Added entry based last updated field.
        bpf - filter calculator
```

```
        BayBox - Packet BBS
        digiinfo - digipeater information database
        Contest logging program
        Chirp contest logger
        bip
        pileup
        twclock
        DX Cluster watcher
        F6FBB BBS

Corrections/Updates:
        Changed all ftp: url's to point to the directory rather than the file.
        CLX, and just about everything else.
        Updated location of John Gotts mirror.

ToDo:
        find a way of automating this, or find an alternate means of
        presenting this information.
```

# 2 Where to obtain new versions of this document.

The Linux Documentation Project runs a Web Server and this document appears there as *The HAM-HOWTO* <http://sunsite.unc.edu/mdw/HOWTO/HAM-HOWTO.html>.

Dennis Boylan N4ZMZ dennis@nanovx.atl.ga.us makes it available at the following three locations:

*www.com* <http://www.com/linux/radio/index.html>, *www.hboc.com* <http://www.hboc.com/linux/index.html> and *www.lan.com* <http://www.lan.com/linux/index.html>.

John Gotts N8QDW jgotts@engin.umich.edu makes it available at: *www-personal.engin.umich.edu* <http://www-personal.engin.umich.edu/~jgotts/linux/HOWTO/HAM/HAM-HOWTO.html>.

Dan Todd dantodd@fusilli.ucdavis.edu makes it available at the following two locations: *wheel.dcn.davis.ca* <http://wheel.dcn.davis.ca/~dantodd/Linux/HAM-HOWTO.html>, and *fusilli.ucdavis.edu* <http://fusilli.ucdavis.edu/Linux/HAM-HOWTO.html>.

Alan Hargreaves VK2KVF alan@dap.CSIRO.AU makes it available in Australia at: *www.dap.csiro.au* <http://www.dap.csiro.au/RadioLinux>.

The Tuebingen Radio Club has it available from their home page at: *DARC Home Page* <http://www.neckar-alb.de/darc/welcome.html>

Please let me know if you'd like to make it available somewhere too. I'd like to see it on some Web Servers that are accessible from radio.

# 3 Satellite Software.

The following software is for use in experimentation with Satellite communication.

## 3.1 MicroSat Ground Station Software

**Author**

John Melton, G0ORX/N6LYT, `g0orx@amsat.org` and Jonathan Naylor G4KLX, `g4klx@amsat.org`

**Description**

Microsat Ground Station software.

**Status**

BETA. Version 0.91 released.

**Updated**

01 Apr 97

**System requirements**

Alan Cox's kernel based AX.25 support ver 1.1.12 or better. X-Windows. The programs make use of the Athena Widgets and look much better with the 3D libraries.

**Detail**

This software allows you to use of a KISS tnc to directly communicate with the Microsat series of satellites. It provides an Athena Widgets based X-Windows interface, and allows you a comprehensive range of means of interacting with the satellite. The software should work with any window manager.

The software provides the following programs:

**xpb:**
broadcast monitor

**xpg:**
ftl0 file upload program, message upload program

**xtlm:**
telemetry display program

**downloaded:**
downloaded file list viewer

**directory:**
directory list viewer

**message:**
message preparation application

**viewtext:**
uncompressed ASCII text file viewer

**viewlog:**

display the contents of some log files

**xweber:**

special program for downloading webersat images

**phs:**

general purpose PACSAT header stripper

**Where and How to obtain it.**

John's software is available from: *ftp.cs.nott.ac.uk* `<ftp://ftp.cs.nott.ac.uk/jsn/>` or *ftp.amsat.org* `<ftp://ftp.amsat.org/amsat/software/Linux/>` or *ftp.funet.fi* `<ftp://ftp.funet.fi/pub/ham/satellite/pacsat/>`. The version current at the time of writing was `microsat-0.91.tar.gz`. Please check for new versions.

**Licensing/Copyright**

GNU Public License. Freely redistributable, No warranty.

**Contributed by:**

John Melton, G0ORX/N6LYT, Alan Cox, GW4PTS, Jonathon Naylor, G4KLX

## 3.2 SatTrack - Satellite tracking program

**Name**

SatTrack

**Author**

Manfred Bester, DL5KR, `manfred@ssl.berkeley.edu`, (510) 849-9922

**Description**

Satellite realtime tracking and orbit prediction program with X11 color graphics.

**Status**

Version 4.0 is a fully commercial release. Version 3.1.5 is the last freely available release.

**Updated**

01 Apr 97

**System requirements**

A vt100 terminal and or X11 server. A Maths Coprocessor is useful, but not essential, for good performance.

**Detail**

SatTrack is a satellite tracking program that has been written in 'C' language on a UNIX workstation. It provides two different live displays, for single or multiple satellites, and two different orbit prediction facilities. Cursor controls used in both live displays are compatible with the VT100

standard, which allows the program to be run basically from any terminal. An optional X Window graphics display shows the typical world map tracking chart. The orbit prediction can be run either interactively or in a batch mode. In the latter case all necessary parameters are specified on the command line. The program uses the NORAD/NASA two-line Keplerian element (TLE) sets directly.

The current version of SatTrack can track a single satellite and/or display multiple satellites for a single ground station. It also can control suitable ground station hardware, like antennas and radio equipment, and has an autotrack mode in which it switches automatically between a number of specified satellites. For calibration purposes tracking of the Sun and the Moon are also provided. Future releases will provide more options. SatTrack requires about 5MB of disk space in the full distribution with eight different world maps (2 styles, with 4 different sizes each, to fit everyone's screen and taste) and less than 1.5 MB of memory at run time. More information can be obtained from the *SatTrack WWW Home Page* `<http://www.primenet.com/~bester/sattrack.html>`.

**Where and How to obtain it.**

The commerical version of SatTrack can be found at: *SatTrack WWW Home Page* `<http://www.primenet.com/~bester/sattrack.html>`.

The free version of SatTrack may be found at: *ftp.jvnc.net* `<ftp://ftp.jvnc.net/priv/kupiec/sattrack/>` or *ftp.amsat.org* `<ftp://ftp.amsat.org/amsat/software/Linux/>`.

**Licensing/Copyright**

The software is Copyright of Manfred Bester. It can be used without special permission for non-profit, non-commercial use. For commercial applications a license from the author is required. Version 4.0 is a fully commercially supported release.

**Contributed by:**

Manfred Bester, DL5KR

## 3.3 Predict

**Author**

John A. Magliacane, KD2BD, `kd2bd@amsat.org`

**Description**

A satellite orbital prediction program that also tracks the sun's position to predict visible satellite passes.

**Status**

Complete and working.

**Updated**

01 Apr 97

#### System requirements

predict is a screen-oriented program that utilizes the ncurses-1.8.5 (or later) library. A color terminal is a plus, but not a necessity.

#### Detail

Features of predict include azimuth and elevation headings of satellite passes, orbital phase, sub-satellite point locations, slant ranges, orbit numbers, and sunlight visibility as a function of date and time. The program is simple, fast, and easy to use. Predict maintains an orbital database for 21 satellites that can be updated by the user through the keyboard or by using files containing NASA 2-line orbital element data. Since this program operates under a multiuser environment, each user on the system owns and maintains his or her own unique orbital data base.

This program has been compiled using the highest level of compiler optimization for high speed execution, and uses an a.out binary format for greatest compatibility.

To install the package use the following:

```
# cd /
# tar xvfz predict.tgz
```

#### Where and How to obtain it.

You can obtain `predict.tgz` from: *amsat.org* `<ftp://amsat.org/amsat/software/Linux/>`

#### Licensing/Copyright

This software is available free of charge and must be used for non-commercial purposes only.

#### Contributed by

John A. Magliacane, KD2BD

### 3.4 UO11

#### Author

John A. Magliacane, KD2BD, `kd2bd@amsat.org`

#### Description

A simple UoSAT-OSCAR-11 satellite telemetry decoding program.

#### Status

Complete and working.

#### Updated

01 Apr 97

#### System requirements

A 1200 baud UoSAT-OSCAR-11 FSK demodulator (Bell-202 is suitable), a VHF-FM receiver that can tune to 145.825 MHz, a small yagi antenna, and a communications program such as Minicom that can save 1200 baud ASCII telemetry data to a text file.

#### Detail

uo11 decodes ASCII telemetry data that has been captured through a terminal program, error checks the received data, and applies calibration equations to the received data to produce a report that can be easily understood and analyzed. uo11 comes pre-compiled (a.out format) with a man page entry for ease of use.

To install you should use the following commands:

```
# cd /
# tar xvfz uo11.tgz
```

#### Where and How to obtain it.

You can obtain `uo11.tgz` from: *amsat.org* `<ftp://amsat.org/amsat/software/Linux/>`

#### Licensing/Copyright

This software is available free of charge and must be used for non-commercial purposes only.

#### Contributed by

John A. Magliacane, KD2BD

### 3.5 Dove

#### Author

John A. Magliacane, KD2BD, `kd2bd@amsat.org`

#### Description

A simple DOVE-OSCAR-17 satellite telemetry decoding program.

#### Status

Complete and working.

#### Updated

01 Apr 97

#### System requirements

A terminal node controller (TNC), a VHF-FM receiver that can tune to 145.825 MHz, a small yagi antenna, and a communications program such as Minicom that can save 1200 baud ASCII telemetry data to a text file.

#### Detail

dove decodes ASCII telemetry data that has been captured through a terminal program and applies calibration equations to the received data to produce a report that can be easily understood and analyzed. dove comes pre-compiled (a.out format) with a man page entry for ease of use.

To install Dove you should use the following commands:

```
# cd /
# tar xvfz dove.tgz
```

**Where and How to obtain it.**

You can obtain `dove.tgz` from: *amsat.org* `<ftp://amsat.org/amsat/software/Linux/>`

**Licensing/Copyright**

This software is available free of charge and must be used for non-commercial purposes only.

**Contributed by**

John A. Magliacane, KD2BD

## 3.6 Kepgen

**Author**

John A. Magliacane, KD2BD, `kd2bd@amsat.org`

**Description**

A simple, yet useful utility that generates Keplerian data files in the NASA 2-line format from data entered through the keyboard.

**Status**

Complete.

**Updated**

01 Apr 97

**System requirements**

kepgen is a screen-oriented program that utilizes the ncurses-1.8.5 (or later) library. A color terminal is a plus, but not a necessity.

**Detail**

kepgen allows the user to create checksummed Keplerian data files in the NASA 2-line format using orbital data entered via the keyboard. kepgen was created out of the need for generating 2-line orbital files from orbital data copied from WA3NAN audio transmissions during Space Shuttle missions. The files created can be read by virtually any satellite tracking or orbital prediction program. kepgen comes pre-compiled (a.out format) with a man page entry for ease of use.

To install kepgen you should use the following commands:

```
# cd /
# tar xvfz kepgen.tgz
```

**Where and How to obtain it.**

You can obtain `kepgen.tgz` from: *amsat.org* `<ftp://amsat.org/amsat/software/Linux/>`

**Licensing/Copyright**

This software is available free of charge and must be used for non-commercial purposes only.

**Contributed by**

John A. Magliacane, KD2BD

# 4 Shack Automation Software.

Software for simplifying tasks in the shack. Examples might include software for controlling the newer breed of radios, logging programs, QSL database, or antenna rotation.

## 4.1 FT-890 remote control

**Author**

Emarit Ranu, KG0CQ, `drranu@holly.ColoState.EDU`

**Description**

A simple program to control a Yaesu FT-890 transciever via its CAT port from linux.

**Status**

Working

**Updated**

01 Apr 97

**System requirements**

Yaesu FT-890, Yaesu FIF-232C interface converter or homebuilt equivalent (Feb 1993 "QST", page 37). Linux, serial cable.

**Detail**

The program is started with one parameter specifying the com port to use. Once started the program is menu driven. Future versions will support an X-Windows interface.

**Where and How to obtain it.**

The software is currently only available from the author by email.

**Licensing/Copyright**

You may copy this program millions of times, the only restrictions are:

- You may not charge ANYONE for the program itself.
- You may not distribute modified versions of the program.
- If you distribute the program, it MUST be the ORIGINAL tar file as received by the author. The README file has to be included.

**Contributed by:**

Emarit Ranu, KG0CQ

# 5 Packet Radio

Software for use in conjunction with, or for facilitating packet radio.

## 5.1 F6FBB Packet BBS

### Author

Jean-Paul Roubelat, F6FBB, jpr@f6fbb.org

### Description

Fully Features Packet Radio BBS system with X11 Windows interface

### Status

Version 7.00b45 is Beta.

### Updated

01 Apr 97

### System Requirements

Kernel based AX.25/NetRom/Rose network configuration. X11 windowing system for the X11 version.

### Detail

This is a port of the well known F6FBB Packet Bulletin Board system to Linux. The BBS supports connections from AX.25, NetRom, Rose and TCP/IP and offers all of the features you'd expect from the product. The optional X11 interface provides a nicely presented sysop interface.

A mailing list for F6FBB is available. To subscribe send a mail message to: majordomo@f6fbb.org with the line 'subscribe xfbb' in the body of the message. The mailing list is archived at *zone.pspt.fi* <http://zone.pspt.fi/archive/fbb/>.

### Where and how to obtain it

You can obtain the F6FBB package from its home site at: *F6FBB Home Page* <http://www.f6fbb.org/>.

### Licensing/Copyright etc.

The F6FBB software is frelly available for non-commercial use.

## 5.2 DX Cluster Watcher

### Author

Pierluigi Guerzoni, IZ4AKO, iz4ako@ing49.unife.it

### Description

Displays DX information passively received from a DX Cluster Node.

### Status

Version 4, stable.

#### Updated

01 Apr 97

#### System Requirements

Requires Kernel based AX.25 configuration.

#### Detail

The DX Cluster watchers listens to the DX Cluster traffic on your frequency, captures it and displays it in a coloured text window. It conserves traffic on the frequency by not requiring you to actually connect to the cluster node.

#### Where and how to obtain it

You can obtain the DX Cluster Watcher from the: *DX Cluster Watcher Home Page* <http://ing49.unife.it/~iz4ako/project_inglese.html>.

#### Licensing/Copyright etc.

GNU GPL

#### Contributed by

Pierluigi Guerzoni, IZ4AKO, iz4ako@ing49.unife.it

### 5.3 Digiinfo

#### Author

Ported by Mario Lorenz, DL5MLO, dl5mlo@vdazone.org

#### Description

A database of packet radio network information.

#### Status

Version 2.5.1 is stable.

#### Updated

01 Apr 97

#### System Requirements

No special requirements.

#### Detail

*digiinfo* was a program initially written for the Atari by Karsten DC7OS. Digiinfo is a database program for displaying information about the packet radio networks.

#### Where and how to obtain it

You can obtain the digiinfo package and database from its home site at: *www.vdazone.org* <http://www.vdazone.org/~dl5mlo/digiinfo/>.

**Licensing/Copyright etc.**

ALAS, Amateur only license

**Contributed by**

Mario Lorenz, DL5MLO, dl5mlo@vdazone.org

## 5.4 BayBox BBS

**Author**

Flori Radlherr, DL8MBT, flori@t-online.de

**Description**

A Packet Bulleting Board System for Linux.

**Status**

Version 1.38, stable.

**Updated**

01 Apr 97

**System Requirements**

Recommended hardware is 80486/33Mhz with 8MB RAM

**Detail**

Unfortunately the documentation is in German and I'm unable to understand most of it. I get the impression though that this is a BBS that supports all of the usual features on a packet radio bbs, forwarding etc, but the documentation seems to suggest that the Linux version supports telnet access only. This isn't really a big constraint, as you can easily configure a session under the Linux *ax25d* program to accept AX.25/NetRom/Rose connections and connect the BBS via telnet.

If you're able to help by giving a better description, I'd appreciate it.

**Where and how to obtain it**

You can obtain the BayBOX from its home sites at: *members.aol.com*
<http://members.aol.com/baybox/>

**Licensing/Copyright etc.**

The BayCom-Mailbox software is intended for usage in amateur radio context only. Any usage outside of the amateur radio AX.25 network, especially commercial usage or distribution is prohibited. Within the scope of this limitation, usage and copying of the BayCom-Mailbox without fee is hereby granted. In any case of usage, the software is provided "as is" and comes with absolutely no warranty, neither implied nor expressed.

**Contributed by**

Iztok Saje, S52D, s52d@s55tcp.ampr.org

## 5.5 JNET

### Author

Takeshi Shoji, JF2CEX, `taka@myk.ilc.or.jp`

### Description

An enhanced version of KA9Q NOS for Linux and other platforms.

### Status

Version 961210, Stable, released.

### Updated

01 Apr 97

### System Requirements

No special system requirements, requires KISS TNC.

### Detail

This another actively maintained derivative of the KA9Q NOS package. This version has been ported to a wide range of alternative platforms and offers some enhancements not available in other NOS derivatives. A small catch is that most of the documentation is in Japanese.

### Where and how to obtain it

You can obtain the latest version of JNET from its home site at: *www.myk.ilc.or.jp* `<http://www.myk.ilc.or.jp/~taka/software.html#jnetcex>`.

### Licensing/Copyright etc.

I'm actually not sure. I suspect though that as a NOS derivative it is freely usable by amateur radio operators.

### Contributed by

Isao SEKI, http://www.prug.or.jp/people/jm1wbb

## 5.6 XNet

### Author

Richard R. Parry, W9IF, `rparry@qualcomm.com`

### Description

A traffic analyser for AX.25 networks.

### Status

Stable, released.

### Updated

01 Apr 97

#### System Requirements

TCL-7.5/Tk-4.1, KISS TNC.

#### Detail

The XNet software provides a variety of tools that an AX.25 lan manager could use to analyze and manage traffic. The tools present a graphical view of all of the traffic received at the monitoring node allowing the observer to easily see where the traffic flows normally and other information such as:

- Packet counts
- Node statistics
- Network Utilisation figures

The network is displayed with icons representing hosts and lines between them representing the traffic flow. The graphical display provides an instantly absorbable view of the traffic on the network being monitored. Richard has more information and sample displays at: *www.qualcomm.com* `<http://www.qualcomm.com/~rparry/xnet.html>`.

#### Where and how to obtain it

You can obtain the software from: *www.qualcomm.com*
`<http://www.qualcomm.com/~rparry/xnet/xnet-1.1.tar>`

#### Licensing/Copyright etc.

XNET is a freeware program. It may be freely distributed.

#### Contributed by

Richard Parry, W9IF

### 5.7 monax25

#### Author

Skip Hansen, WB6YMH and Harold Price, NK6K.

#### Maintained by

Jonathon Naylor, `jsn@cs.nott.ac.uk`

#### Description

The *monax25* provides a number of utilities for collecting statistics on AX.25 channel usage.

#### Status

Version 1.11, Stable

#### Updated

01 Apr 97

#### System Requirements

KISS TNC.

#### Detail

The original *ax25mon* programs were written for MSDOS. This package is a port of that software to Linux.

#### Where and how to obtain it

The '`monax25`' package may be obtained from: *sunsite.unc.edu ham applications directory* `<ftp://sunsite.unc.edu/pub/Linux/apps/ham/>`.

#### Licensing/Copyright etc.

Freely copyable, not GPL though.

### 5.8 splitscreen

#### Author

Dave Brown, N2RJT, `dcb@vectorbd.com`

#### Description

Split screen 'ttylink' style program with scroll back and log to file.

#### Status

Version 1.4.1, stable.

#### Updated

01 Apr 97

#### System Requirements

Requires the '*ncurses*' package.

#### Detail

The *splitscreen* is a unix implementation of the NOS *ttylink* command. It provides a splitscreen display that makes user to user chats much easier than the usual telnet interface. The scroll back buffer and log to file features are useful when you use the *splitscreen* program to access services like *convers*.

#### Where and how to obtain it

The '`splitscreen`' package is available from: *sunsite.unc.edu ham applications directory* `<ftp://sunsite.unc.edu/pub/Linux/apps/ham/>`

#### Licensing/Copyright etc.

Public Domain

## 5.9 talk-ax25

**Author**

Dave Brown, N2RJT, dcb@vectorbd.com

**Description**

Berkeley 'talk' client modified to support Linux AX.25

**Status**

Version 960426, working.

**System Requirements**

Requires the '*ncurses*' package.

**Detail**

The '`talk-ax25`' program is a modifed version of the conventional Berkeley 'talk' program to support Linux AX.25 operation.

**Where and how to obtain it**

The '`talk-ax25`' program is available from: *sunsite.unc.edu ham applications directory* <ftp://sunsite.unc.edu/pub/Linux/apps/ham/> or from: *ftp.ucsd.edu* <ftp://ftp.ucsd.edu/hamradio/packet/tcpip/linux/>.

**Licensing/Copyright etc.**

Berkeley style. Freely distributable, copyright messages must be retained.

## 5.10 7Plus for Linux

**Author**

Axel Bauda, DG1BBQ, DG1BBQ@DB0CL.#HB.DEU.EU

**Description**

Uuencode-like file coder for BBS Send and Forward of binary files.

**System Requirements**

none special

**Detail**

Provides the ability to 7Plus encode binary files to allow them to be transmitted within AX.25 BBS messages.

**Where and how to obtain it**

The '`7pl217sr`' encoder package is available from: *sunsite.unc.edu ham applications directory* <ftp://sunsite.unc.edu/pub/Linux/apps/ham/>.

**Licensing/Copyright etc.**

Hamware - Free for use by amateur radio use.

## 5.11 TNOS

### Author

Brian A. Lantz, brian@lantz.com

### Description

TNOS is a NOS derivative that is being actively supported and which is available for both DOS and Linux. It features many enhancements not found in other NOS versions.

### Status

Version 2.21. Stable.

### Updated

01 Apr 97

### System Requirements

Kernel networking slip support if you want to link the normal Linux network facilities with TNOS. A kiss tnc.

### Detail

Brian maintains a World Wide Web server which contains up to date information on TNOS, you can find it at *www.lantz.com* <http://www.lantz.com/tnos/tnos.html>.

### Where and how to obtain it

The current version of TNOS is always available from: *ftp.lantz.com* <ftp://ftp.lantz.com/tnos/current/unix/>, *sunsite.unc.edu* <ftp://sunsite.unc.edu/pub/Linux/apps/ham/>, or *ftp.ucsd.edu* <ftp://ftp.ucsd.edu/hamradio/packet/tcpip/tnos/>.

### Licensing/Copyright etc.

Free for use by amateur radio operators and educational oraganisations

## 5.12 N0ARY Packet BBS for UN*X

### Author

Bob Arasmith, N0ARY, ported to Linux (and others) by Bob Proulx, KF0UW, rwp@fc.hp.com

### Description

A packet bbs implemented under UN*X.

### Status

ALPHA. Bob is running version ARY-0.9 on both Linux and HP-UX. The next version from N0ARY which is called 4.0 is in alpha test/development release. Bob has not been able to bring this online yet and is still running 0.9+kf0uw mods. Bob has about half it working with Alan Cox's AX.25 kernel which would be the desirable combination.

**Updated**

01 Apr 97

**System Requirements.**

Linux installation, C Compiler, plus HAM radio TNC hardware.

**Detail**

This bbs has an excellent packet user interface. It has a compatible set of commands with the RLI bbs so users will be familiar with it immediately. It then extends the command set to be a very nice natural language style interface (e.g "list at allus about KPC-3"). Many csh style bang commands are supported. Also included is a mail interface to provide a packet to internet gateway.

Currently you need to customize the source code for your installation so you need some C programming proficiency.

**Where and How to obtain it.**

For a Linux version or for Linux information send mail to `rwp@fc.hp.com`. For a SunOS version contact `bob@arasmith.com`. This code is not packaged for distribution yet since it is not past the alpha stage of development.

A version of the software is available from *ftp.funet.fi*
`<ftp://ftp.funet.fi/pub/ham/unix/packet/n0ary/>`

**Licensing/Copyright**

Copyright by Bob Arasmith, N0ARY, but freely redistributable.

**Contributed by:**

Bob Proulx, KF0UW

## 5.13 LBBS - Linux BBS message gateway

**Author**

Daryl L Miles, G7LED, `dlm@frink.demon.co.uk`

**Description**

A BBS package designed to operate with either the native AX.25 kernel code or with the Wampes package.

**Status**

In development, working.

**Updated**

01 Apr 97

**System requirements**

Kernel AX.25 support or the Wampes package. sendmail, CNEWS.

### Detail

Daryl's aim was to build a platform on which amateurs could build a Packet BBS to smtp gateway for Linux. I'm not sure what the current status is as the last version I could find was dated 30 Jun 1995. The latest binary version supports:

- MBL, FBB batching, FBB compressed, FBB type 1 compressed forwarding with restart facility implemented, deferring, and rejection.
- various Linux transport mechanisms including TCP kernel, AX.25 kernel, Wampes NetROM, AX25 or TCP.
- Simple dialer, to allow connections through AX.25 or NetROM nodes.
- White Pages
- Transient handling of type A (ACK messages).
- SMTP/NNTP<¿BBS gatewaying implemented heavily to the extent that the user front end will be accessing the NetNews spool to retrieve articles.
- Message filter mechanism
- Field swapping (like SWAPP.SYS in FBB).
- Multiuser/connect.

To install, I did the following:

```
# cd /usr/src
# mkdir LBBS
# tar xvfz LBBS-0.1.6A.tar.gz
# cd LBBS
# ./Install.sh
```

This created a `/usr/lbbs` directory. The `README.Setup` file suggest an order in which to configure the BBS.

### Where and How to obtain it.

You can obtain the '`LBBS`' package from: *ftp.ucsd.edu* `<ftp://ftp.ucsd.edu/hamradio/packet/tcpip/linux/>`.

### Licensing/Copyright

Freely distributable for any non-commercial Amateur Radio use only. No warranty. Will be changed to GPL when software is stable.

## 5.14 MBL/RLI message to NNTP and email converter.

### Author

SM0OHI, `pme@it.kth.se`

### Description

Software that will convert incoming MBL/RLI messages into either NNTP or RFC-822 formatted mail messages.

**Status**

Development, not yet released.

**Updated**

01 Apr 97

**System requirements**

Unknown.

**Detail**

This software would be ideally suited to those who want to establish a mail and news gateway between conventional tcp/ip networks and the amateur radio mail network.

**Where and How to obtain it.**

Not yet availale.

**Licensing/Copyright**

Unknown.

**Contributed by:**

SM0OHI

## 5.15 CLX Packet DX Cluster Program

**Author**

Franta Bendl, DJ0ZY, and Bernhard ("Ben") Buettner, DL6RAI, `root@dl6rai.muc.de`

**Description**

A PacketCluster like system running on Linux.

**Status**

Current version 2.07

**Updated**

01 Apr 97

**System Requirements**

Linux Kernel version 2.0 or greater, TCP/IP networking, SysV IPC. Also requires Perl and optionally Expect.

**Detail**

PacketCluster nodes have been available for about seven years. The original software was written by Dick Newell, AK1A, and is running under DOS. CLX is a system which clones a PacketCluster node. To the outside user commands and features are mostly identical. Remote PacketCluster nodes, which

can be networked, don't see the difference between a generic PacketCluster node and CLX. So it fits well into an established network of PacketCluster nodes.

CLX is not a user application, it is network node software. As such it is not of much use for the individual amateur. SysOPs of PacketCluster nodes with some experience on both PacketCluster and Linux will find this application interesting.

Here are some of the features of CLX:

- It is fully compatible with the internal PCxx protocol and from a users point of view. It allows multitasking and different priorities.
- The software detects looping DX spots without generating endless messages. CLX filters out such duplicate information. We have implemented a concept which allows us to connect the network at multiple points, which would formerly have been called a "Cluster Loop". CLX knows of so-called "active" and "passive" links. The outcome is that more DX information is seen by CLX users.
- An interface for extending CLX with your own programs and applications.
- Extended connectivity through the use of connect scripts. CLX now can build up and maintain virtually any connection using TCP/IP, UUCP or any other communication programs.
- CLX uses modern programming concepts like shared memory for common data, lex and yacc to implement command language, shared libraries to keep binaries small, remote procedure calls for interprocess communication. It is strictly modularized with its own dedicated process for every major task.
- Comprises of several modules running as separate processes.

### Where and How to obtain it

You can obtain the software from *ftp.funet.fi* <ftp://ftp.funet.fi/pub/ham/unix/Linux/cluster>

There are five files that make up the package:

```
00Index
clx_206.tgz
clx.txt
README
```

### Licensing/Copyright

CLX (c) by Franta Bendl (DJ0ZY) and is available for non-commercial use, but the authors want to keep track of who is using their product, so before you can actually use the software you have to ask for an encrypted callsign string to be placed in the configuration file. You must send mail to `clx_us@dl6rai.muc.de` to organise this.

### Contributed by

Bernhard ("Ben") Buettner, DL6RAI

## 5.16 DPTNT Terminal and DPBOX BBS package.

### Author

Mark Wahl, DL4YBG, DL4YBG@DB0GR.#BLN.DEU.EU, wahlm@berlin.snafu.de and Joachim Schurig, DL8HBS, DL8HBS@DB0GR.#BLN.DEU.EU, h0187akk@rz.hu-berlin.de

### Description

A suite of programs that provide BBS and Terminal programs for Linux.

### Status

Stable and working.

### Updated

01 Apr 97

### System requirements

TNC supporting WA8DED hostmode or KISS protocols.

### Detail

TNT is a full featured hostmode terminal program. Compiling it on Linux is as difficult as untarring the source and typing 'make'. It provides both a 'dumb' terminal and X11 version. It comes with some comprehensive documentation which describes its features in some detail. Its main features are:

**Multiple sessions:**

TNT supports multiple packet radio connections on virtual screens that you can switch between. Each session window provides split screen (seperate transmit and receive text) operation with a status line. Commands can be entered in either a command session, or in any terminal session using a command key. Each of the virtual screens can be larger than the physical screen and can be scrolled around.

**Data capture, file transfer and logging:**

A number of options are available for logging received text to files. You can log transmit, receive or both to a log file. You can overwrite or append received data to existing files. You can use the 'autobin' protocol to transmit or receive binary files.

**Remote Shell operation:**

You can provide a shell to remote users so that they can access other programs on your computer. You can also run a program and direct its input/output to a channel so that users can use it.

**Redirection of devices to a channel:**

TNT allows you to redirect input/output from a channel to a device, a modem for example.

**Umlaut conversion:**

TNT provides umlaut conversion if necessary.

**Remote mode:**

Remote users can issue command themselves if allowed to do so.

**Socket mode:**

You can configure tnt so that it opens a socket for users to telnet to that allows them operation just as you have from the console. This is useful where your linux machine is on an ethernet and you want other terminal on the net to have use of your radio.

New versions will support the Linux kernel AX.25 code.

DPBOX is a full featured BBS supporting the following features:

- F6FBB, W0RLI, TheBox style forwarding protocols.
- 8-bit transparent handling of messages using AutoBIN protocol.
- BBS data compressed to save space on disk, forwarding and downloading.
- "Live message capture" off BBS frequency, saves network traffic.
- PACSAT style bulletin broadcast transmitter and receiver.
- up to 200 simultaneous users.

**Where and How to obtain it.**

The '`dptnt`' package may be found at: *ftp.funet.fi* `<ftp://ftp.funet.fi/pub/ham/unix/packet/dptnt/>`, or *ftp.tapr.org* `<ftp://ftp.tapr.org/pub/tapr/software_lib/Linux/>`, or *ftp.ucsd.edu* `<ftp://ftp.ucsd.edu/hamradio/packet/tcpip/incoming/>`.

The Home Pages of the developers are at: *DL4YBG* `<http://www.snafu.de/~wahlm/>` and *DL8HBS* `<http://hppool0.rz.hu-berlin.de/~h0187akk/>`

**Licensing/Copyright**

The TNT and DPBOXT programs are covered by the GNU Public License. The TFKISS program is covered by ALAS (a german license for Amateur Radio use), and the DPBOX program is freely distributable for Amateur Radio use.

## 5.17 IPIP encapsulation daemon.

**Name**

Mike Westerhof's IPIP encapsulation daemon.

**Author**

Mike Westerhof KA9WSB (original code), then Bdale Garbee N3EUA (port to BSD), then Ron Atkinson N8FOW and John Paul Morrison (port to Linux), then Bdale rolled it all back together again.

**Description**

A daemon that will allow you to use your linux machine as an IPIP encapsulating gateway. *Note, this probably isn't necessary any more in most installations because recent kernel support a kernel device to perform encapsulation.*

**Status**

Ron is running this code himself, and the other version have been run quite successfully.

**Updated**

01 Apr 97

**System requirements**

KISS TNC, any version of Linux supporting RAW sockets.

**Detail**

If you've ever used an internet gateway from your amateur packet radio you have probably been connected by an encapsulation gateway of some descpription. Most run KA9Q's NOS and DOS, but others run Unix and this daemon. It allows you to encapsulate IP within IP, so that you can 'tunnel' IP connections over the Internet. The software allows you to connect a KISS TNC to your linux machine and to have all datagrams received on it carried across the Internet to a similar gateway. Bdale has installation instructions in the package.

**Where and How to obtain it.**

This software is available from the *col.hp.com* `<ftp:///col.hp.com/hamradio/packet/etc/ipip/ipip.tar.gz>` ftp site.

**Licensing/Copyright etc.**

Freely distributable, though Bdale asks that if you use the code and like it you might send him a QSL card or a postcard.

**Contributed by:**

Ron Atkinson, N8FOW, and Bdale Garbee, N3EUA

**Note:**

You may want to consider using kernel based tunnel daemon now instead.

## 5.18 AXIP encapsulation daemon.

**Name**

Mike Westerhof's AXIP encapsulation daemon.

**Author**

Mike Westerhof KA9WSB, ported to Linux by Ron Atkinson N8FOW.

**Description**

A daemon that will allow you to use your linux machine as an AXIP encapsulating gateway.

**Status**

Not properly tested, but assumed to work ok.

**Updated**

01 Apr 97

**System requirements**

KISS TNC, any version of Linux supporting RAW sockets.

**Detail**

This daemon is the partner to the IPIP encapsulation daemon. It allows you to encapsulate AX.25 frames in IP to carry them across the Internet. This is useful for linking AX.25 networks in remote areas. Ron has supplied a `Makefile` for linux, and with it the software compiled without errors on my system running a recent version kernel. Ron has also written some `README` files which give you the detail necessary to compile the system and the original documentation describes how to configure it.

**Where and How to obtain it.**

This software is available in the *sunsite.unc.edu ham apps directory* `<ftp://sunsite.unc.edu/pub/Linux/apps/ham/ax25ip.tar.gz>`. An enhanced version of this software is included in recent versions of the Linux AX.25 utilities. Refer to the *AX25-HOWTO* `<http://sunsite.unc.edu/LDP/HOWTO/AX25-HOWTO.html>` for more information.

**Licensing/Copyright etc.**

Freely distributable so long as the original copyright notice is not removed.

**Contributed by:**

Ron Atkinson, N8FOW

## 5.19 Ping-Pong Convers Server

**Name**

Fred Baumgartens Convers Server for Linux.

**Author**

Fred Baumgarten, DC6IQ, `dc6iq@insu1.etec.uni-karlsruhe.de`, and Brian Lantz `brian@lantz.com`.

**Description**

This is a version of the convers server that allows multiple users to simultaneously chat with each other in a round-table style conversation. It is compatible with the NOS convers servers, but provides extra facilities such as saving/restoring of Personal Text and Chanel Topics. Brian Lantz has further enhanced the software with additional features.

**Status**

In use of a number of popular convers servers, appears very stable.

**Updated**

01 Apr 97

**System requirements.**

Linux, GNU make, C compiler.

**Detail.**

Complete installation instructions are included in the `INSTALL` file that is included in the distribution.

**Where and How to obtain it.**

A distribution of this software is available at *sunsite.unc.edu* `<ftp://sunsite.unc.edu/pub/Linux/apps/ham/convers/>`. The home of the software is at *insu1.etec.uni-karlsruhe.de ftp server* `<ftp://insu1.etec.uni-karlsruhe.de/pub/hamradio/convers/convers>`

**Licensing/Copyright etc.**

Presumably copyright Fred Baumgarten (not specifically stated), but some portions appear to be free for non-commercial use and copying provided the copyright notices stay intact.

## 5.20 RSPF Daemon

**Name**

RSPF - Radio Shortest Path First routing daemon for Linux

**Author**

Craig Small vk2xlz `csmall@triode.apana.org.au`

**Description**

An implementation of the Radio Shortest path First routing protocol for linux. The daemon supports version 2.2 of the protocol which corrects a lot of bugs and problems that were present in version 2.1.

**Status**

Alpha - running, needs testing and bug reports. Current version is 0.08

**Updated**

01 Apr 97

**System requirements.**

Requires Alan Cox's kernel based AX.25 code.

**Detail**

This program will allow Linux to become an RSPF router. It addresses some of the quirks of RSPF v2.1, the version in NOS which means that it is incompatible with the NOS version. It will also allows remote/local queries via a tcp session for debugging and diagnostic purposes.

**Where and How to obtain it.**

Current versions are always available from *sunsite.unc.edu* `<ftp://sunsite.unc.edu/pub/Linux/apps/ham/>` or *ftp.ucsd.edu* `<ftp://ftp.ucsd.edu/hamradio/packet/tcpip/incoming>` or from the author.

### Licensing/Copyright

GNU Public License vers 2.0

### Contributed by:

Craig Small, VK2XLZ

## 5.21 Michael Westfall's TTYLINK Daemon

### Name

ttylinkd - a ttylink daemon for Linux.

### Author

Michael Westfall, N6KUY, `mwestfal@.csci.csusb.edu`

### Description

A split screen terminal program that listens on the ttylink port and accepts incoming connection requests.

### Status

Seems to work fine.

### Updated

01 Apr 97

### System requirements

none special.

### Detail

This is a standalone program that does require you to change the configuration of your system at all. If you have root access on your machine then you run the program in a VT or in an XTerm and it will clear the screen and wait for an incoming connection on port 87 (ttylink). When a connection is received it will provide you with a split screen display with which to communicate with the calling person.

### Where and How to obtain it.

You can obtain ttylinkd from: *sunsite.unc.edu* `<ftp://sunsite.unc.edu/pub/Linux/apps/ham/ttylinkd.tgz>` or *ftp.ucsd.edu* `<ftp://ftp.ucsd.edu/hamradio/packet/tcpip/incoming/ttylinkd.tgz>`.

### Licensing/Copyright

Unknown, presumed freely distributable.

### 5.22 Craig Small's TTYLINK Daemon

**Name**

ttylinkd - a ttylink daemon for Linux.

**Author**

Craig Small, VK2XLZ, `csmall@triode.apana.org.au`

**Description**

A daemon to accept a ttylink (port 87) tcp/ip connection and convert it into a talk request for a user on the host machine. This may also be configured for use with the *ax25d* program so that AX.25 users may also make use of it to connect to you.

**Status**

Alpha, but working.

**Updated**

01 Apr 97

**System requirements.**

Kernel networking support with AX.25 support if desired.

**Detail**

Because the `talk` protocol is a non-standard, that is it isn't actually defined anywhere (except the source), the `ttylink` protocol from NOS has become the defacto standard, at least for amateurs, to provide keyboard to keyboard communication over tcp/ip. This daemon fills the need for something to answer ttylink requests to linux machines.

**Where and How to obtain it.**

You can obtain the latest version of ttylinkd from: *sunsite.unc.edu* `<ftp://sunsite.unc.edu/pub/Linux/apps/ham/>` or *ftp.ucsd.edu* `<ftp://ftp.ucsd.edu/hamradio/packet/tcpip/incoming>`.

An slightly enhanced version of this software is now included in the Linux AX25 utilities package.

**Licensing/Copyright**

GNU Public License vers 2.0

# 6 Morse Code

Software for use in conjunction with, or for facilitating Morse communication.

## 6.1 Pileup

**Author**

Richard Everitt G4ZFE `richard@babbage.demon.co.uk`. Based on *sccw* by Steve Merrifield.

**Description**

CW pileup training program

**Status**

v1.0. Stable but extra development planned.

**Updated**

01 Apr 97

**System requirements**

Linux supported sound card

**Detail**

CW pileup trainer (similar to PED) based on *sccw*. Up to 9 stations calling at once with variable CW speed and tone/volume to simulate a pileup. Callsigns are taken from the 1996 CQ WW CW contest entry of M6A to add some realism.

I fed /usr/dict/words to the program and it was quite a chuckle. So even if you aren't into Morse it is worth trying out just for the giggle.

**Where and How to obtain it.**

You can obtain the `pileup` package from its home site at: *Pileup Home Page* `<http://www.babbage.demon.co.uk/pileup.html>` or *sunsite.unc.edu* `<ftp://sunsite.unc.edu/pub/Linux/apps/ham/>`

**Licensing/Copyright**

GNU GPL

**Contributed by**

Richard Everitt G4ZFE `richard@babbage.demon.co.uk`.

## 6.2 bip

**Author**

Marcin Skubiszewski, `Marcin.Skubiszewski@inria.fr`. 24 rue de l'Oasis, 92800 Puteaux, France

**Description**

A program to learn Morse code (for various Unix-like platforms)

**Status**

Production release

**Updated**

01 Apr 97

**System requirements**

Works on many Unix-like systems, including Linux. On linux it works with or without X11 or a Soundcard.

**Detail**

*bip* offers a very wide range of options that make it very suitable as a code practice program. It can send text from text file or random character groups but it has a range of other features. Some of these are

- Morse compliant with ARRL specification
- adjustable volume and tone
- adjustable speed, including Farenheit method
- Jitter feature to simulate hand sent morse

**Where and How to obtain it.**

Not available online, but anyone can write to `Marcin.Skubiszewski@inria.fr` for a copy of the source code.

**Licensing/Copyright**

Shareware $10.

**Contributed by**

Marcin Skubiszewski, `Marcin.Skubiszewski@inria.fr`.

## 6.3 cw2hex

**Author**

G. Forrest Cook, WB0RIO, `cook@stout.atd.ucar.edu`

**Description**

`cw2hex` converts ascii text into Hex files for making keyer EPROMS.

**Status**

version 1.1 is tested and ready to go.

**Updated**

01 Apr 97

**System requirements**

standalone textual program, requires gcc to compile

**Detail**

This program takes a textual input and converts it to morse encoded characters in the form of a standard Intel HEX file. The Hex file can be used to program an EPROM which can then be connected to a simple circuit that generates canned messages. Possible uses are CW calling machines and CW beacon transmitter keyers. There is an accompanying schematic for a keyer circuit that works with this software.

**Where and How to obtain it.**

You can obtain `cw2hex` from *www.atd.ucar.edu*
`<http://www.atd.ucar.edu/homes/cook/software.html>`

**Licensing/Copyright**

GNU Copyleft

**Contributed by:**

G. Forrest Cook, WB0RIO

## 6.4 SoundCard CW

**Author**

Steve Merrifield, VK3ESM, `sjm@ee.latrobe.edu.au`

**Description**

Morse Code practice for Linux, using a soundcard

**Status**

Completed

**Updated**

01 Apr 97

**System requirements**

Linux supported soundcard with FM support.

**Detail**

This program generates morse code characters using the soundcard. It does not rely on the Linux virtual console sound features and may therefore be used either with X11 or from a virtual console. Its features include:

- adjustable frequency
- adjustable volume
- adjustable speed
- adjustable delay
- adjustable group count

- generation of random groups
- able to decode and play text files

**Where and How to obtain it.**

The software may be obtained from its home site at: *livewire.ee.latrobe.edu.au* <http://livewire.ee.latrobe.edu.au/~sjm/morse>.

**Copyright/Licensing**

Berkeley style copyright. The software may be freely used so long as credit is given to the original author.

**Contributed by:**

Steve Merrifield, VK3ESM

## 6.5 GW4PTS Morse trainer.

**Author**

Alan Cox, GW4PTS, alan@lxorguk.ukuu.org.uk

**Description**

A Morse Code trainer that uses the PC internal speaker

**Status**

stable, works quite well, unfinished.

**Updated**

01 Apr 97

**System requirements**

Linux, any version

**Detail**

Alan wrote this small program in only an hour. It is quite neat, and allows you to play morse at a range of speeds and frequencies through the PC internal speaker. You can specify the text to be played either from the command line, from a file, or the program is capable of generating random character groups. As it stands you must invoke the program from a Linux Virtual Console, as it relies on certain kernel calls to produce the sound, and these don't work as easily from an XTerm. As it sounds each character it lists the character in verbal form (Di, Dit, Dah etc.) to the screen. Alan is hoping that someone will take the code and enhance it with the features he has listed in the comments at the head of the source file.

**Where and How to obtain it.**

I've had a large number of responses from people seeking this code, so I've obtained Alan's permission to make it available. You can obtain it from *sunsite.unc.edu* <ftp://sunsite.unc.edu/pub/Linux/apps/ham/GW4PTS.morse.tar.z>.

**Copyright/Licensing**

GNU Public License 2, freely redistributable, no warranty.

### 6.6 morse (aka superiormorse)

**Author**

Joe Dellinger, joe@sep.stanford.edu, jdellinger@trc.amoco.com, joe@soest.hawaii.edu

**Description**

A morse-code practice program for UNIX workstations.

**Status**

Quite stable

**Updated**

01 Apr 97

**System Requirements**

Currently supports X11, Sun4, HP, Indigo, and Linux

**Detail**

Lots of features and options. Includes a utility for generating random content QSOs, similar to those used in the FCC exams.

**Where and How to obtain it:**

morse.tar.gz can be obtained from: *sepftp.standford.edu*
<ftp://sepftp.stanford.edu/pub/UNIX_utils/morse/>.

**Licensing/Copyright**

Freely Redistributable

**Contributed by:**

Brian Suggs, AC6GV, and John Gotts

## 7 AMTOR Software.

Software for use in conjunction with, or for facilitating AMTOR.

## 8 PACTOR Software.

Software for use in conjunction with, or for facilitating PACTOR.

# 9 Slow Scan Television Software.

Software for use in conjunction with, or for facilitating Slow Scan Television.

# 10 Facsimile Software.

Software for use in conjunction with, or for facilitating Facsimile.

# 11 Design and Construction Software.

Software to assist in the design and construction of amateur radio related things. Antenna, Circuit Board, Filter, and QSL card design packages are all good candidates for this section.

## 11.1 oscope - Enhanced Software Oscillosope

**Author**

Tim Witham, `twitham@pcocd2.intel.com`

**Description**

'oscope' is a digital 44kHz oscilloscope for /dev/dsp. It is based on Jeff Tranter's original work described below but has been significantly enhanced.

**Status**

First production release.

**Updated**

01 Apr 97

**System requirements**

Requires a kernel supported sound card that can do 8800Hz - 44kHz, the '*libsx*' package to build the *xoscope* X11 client, the '*svgalib*' package to build console-based *oscope*, the '*g3vga*' package to add console text, and a mixing program to select input source and level.

**Detail**

Includes oscope for SVGA console display and xoscope, an X11 client. Features include 8-bit sampling of 2 channels at 44kHz, 5 us/div to 5 ms/div time scale, 5 automatic measurements, built-in and external math functions including sum, diff, avg, and FFT, 26 memory buffers, 8 simultaneous signal displays, and file save/load.

**Where and How to obtain it.**

The `oscope` package may be obtained from either *www.bobsplace.com* `<http://www.bobsplace.com/~twitham/>` or *sunsite.unc.edu* `<ftp://sunsite.unc.edu/pub/Linux/apps/circuits/>`.

**Licensing/Copyright**

GNU Public License, Freely redistributable, No warranty.

**Contributed by:**

Tim Witham

## 11.2 Software Oscilloscope

**Author**

Jeff Tranter, `Jeff_Tranter@Mitel.COM`

**Description**

Scope is a simple software emulation of an oscilloscope. It graphically displays voltage as a function of time.

**Status**

ALPHA. First release.

**Updated**

01 Apr 97

**System requirements**

Sound card with input capability supported by the kernel sound driver. SVGALIB is used to do the display work.

**Detail**

Scope uses the `/dev/dsp` device to take audio in from the soundcard and displays it on the screen in a manner similar to an oscilloscope. Jeff claims Scope was written more for amusement value than for any serious purpose.

**Where and How to obtain it.**

You can obtain source, makefile and man page for Scope in the `scope` package from: *sunsite.unc.edu* `<ftp://sunsite.unc.edu/pub/Linux/apps/circuits/>`

**Licensing/Copyright**

GNU Public License, Freely redistributable, No warranty.

## 11.3 Printed Circuit Board design tool.

**Author**

Thomas Nau, `Thomas.Nau@rz.uni-ulm.de`

**Description**

An X11 based interactive printed circuit board design tool.

**Status**

Vers 1.4.1, stable.

**Updated**

01 Apr 97

**System requirements**

X11 Windowing system and a recent flex program.

**Detail**

The pcb package comes with good instructions on how to compile and install the software. I compiled it without error under X11R6. It comes with package layouts for a range of popular components and the example layout nicely demonstrates the capabilities of the package.

**Where and How to obtain it.**

You can obtain the `pcb` package from: *ftp.uni-ulm.de* `<ftp://ftp.uni-ulm.de/pub/pcb/current>` or from: *sunsite.unc.edu* `<ftp://sunsite.unc.edu/pub/Linux/apps/circuits/>`

**Licensing/Copyright**

GNU Public License

## 11.4 Chipmunk circuit design and simulation tool

**Author**

Dave Gillespie `daveg@synaptics.com` and John Lazzaro `lazzaro@cs.berkeley.edu`

**Description**

Schematic Entry and Digital or Analog Simulation tool suite.

**Status**

vers 5.10, stable.

**Updated**

01 Apr 97

**System requirements**

X11 windowing system and older (XFree86-2.x) libs, 8 bpp (256 color) only

**Detail**

I haven't tried this one out yet. It is a suite of tools for circuit design and simulation.

**Where and How to obtain it.**

You can obtain the Chipmunk package from its home site at *www.pcmp.caltech.edu* `<http://www.pcmp.caltech.edu/chipmunk/>`.

**Licensing/Copyright**

Modified GNU Public License, Caltech specifically disclaimed from liability.

## 11.5 irsim

### Author

Dmitry Teytelman, `dim@leland.stanford.edu`

### Description

An event-driven logic-level simulator for MOS circuits

### Status

Version 9.2, production.

### Updated

01 Apr 97

### System Requirements

X-Windows.

### Detail

irsim is an X11 based simulator for MOS circuits. It has two simulation modes, either *switch* where each transistor is modelled as a voltage controlled switch, or *linear* where each transistor is modelled as a resistor in series with a voltage controlled switch, and each node has a capacitance.

### Where and How to obtain it.

You can obtain the `irsim` package from: *sunsite.unc.edu* `<ftp://sunsite.unc.edu/pub/Linux/apps/circuits/>`.

### Licensing/Copyright

Freely Redistributable

## 11.6 Spice vers. 3f4

### Author

University of California, Berkeley, port by `Jeff@RyeHam.EE.Ryerson.Ca`

### Description

Spice is an analog circuit emulator.

### Status

Stable release.

### Updated

01 Apr 97

### System requirements

Unknown.

### Detail

Spice allows you to design and test circuits in a computer modelled environment to see how they will behave without having to touch a soldering iron, or solder. A `readme` file comes with the package. To install I did the following:

```
# cd /usr/src
# gzip -dc spice3f4.tar.gz | tar xvf -
# cd spice3f4
# ./utils/build linux
# ./utils/build linux install
```

### Where and How to obtain it.

You can obtain version 3f4 of the `spice` package from: *sunsite.unc.edu* `<ftp://sunsite.unc.edu/pub/Linux/apps/circuits/spice3f4.tar.gz>`

### Licensing/Copyright

Copyright held by University California, Berkeley. Freely redistributable provided you are not unfriendly to the U.S.

## 11.7 svgafft - Spectrum analyser

### Author

Andrew Veliath, `veliaa@rpi.edu`

### Description

svgafft is a spectrum analyser for Linux.

### Status

Alpha, but usable.

### Updated

01 Apr 97

### System requirements

F77, Linux supported sound card, svgalib, a 486DX33 or better.

### Detail

svgafft uses the `/dev/dsp` device and currently supports 16-bit and 8-bit sample resolution on supported Linux soundcards. It's display is something akin to a high-end spectrum analyzer with falling peaks. Andrew is working on an X-Motif version to be released soon.

### Where and How to obtain it:

You can find the `svgafft` package at *tsx-11.mit.edu* `<ftp://tsx-11.mit.edu/pub/linux/ALPHA/svgafft/>` and *sunsite.unc.edu* `<ftp://sunsite.unc.edu/pub/Linux/apps/sound/freqs/>`.

**Licensing/Copyright**

GNU Public License.

**Contributed by:**

Andrew Veliath

## 11.8 Audio Spectrum Analyser

**Author**

Philip VanBaren, `phillipv@eecs.umich.edu`

**Description**

An audio spectrum analyser for Linux SVGALIB or X-Windows.

**Status**

Alpha but usable

**Updated**

01 Apr 97

**System requirements**

Linux supported sound card, svgalib or X-Windows.

**Detail**

freq5a1 uses the `/dev/dsp` device, samples the incoming audio, performs a fast fourier transform on the data and displays the output in either 640x480 VGA or an X-Window.

**Where and How to obtain it:**

You can obtain `freq5a1.tar.gz` from: *sunsite.unc.edu*
`<ftp://sunsite.unc.edu/pub/Linux/apps/sound/freqs/>` or by mail from the author.

**Licensing/Copyright**

GNU Public License vers 2.0.

## 11.9 ObjectProDSP

**Author**

Paul Budnik, Mountain Math Software, `support@mtnmath.com`

**Description**

ObjectProDSP is an object oriented tool for design, development and implementation of Digital Signal Processing. It allows you to design your DSP network, runs simulations with oscilloscope style plots and listings at any point in the network.

**Status**

Alpha version 0.2.

**Updated**

01 Apr 97

**System requirements**

XFree86 3.1.1 or better, g++ from gcc 2.6.3 or better, 32Mb of total memory (real+swap) recommended, 6Mb of disk space for minimum configuration, 40Mb disk for full installation.

**Detail**

There are a number of files that comprise the package. There is a binary only package for Linux which I recommend you start with. There is comprehensive documentation included from which you can obtain installation and operation instructions.

**Where and How to obtain it.**

You can obtain ObjectProDSP from: *sunsite.unc.edu* `<ftp://sunsite.unc.edu/pub/Linux/devel/opd>`, *tsx-11.mit.edu* `<ftp://tsx-11.mit.edu/pub/linux/packages/dsp>`, or *ftp.funet.fi* `<ftp://ftp.funet.fi/pub/Linux/util/electronics/opd>`. There are a number of files that comprise the package, some of the quite large so be prepared.

**Licensing/Copyright**

GNU Public License vers 2.0., Commercial licensing available.

## 11.10 bpf - bandpass filter calculator

**Author**

G. Forrest Cook, WB0RIO, `cook@stout.atd.ucar.edu`

**Description**

`bpf` assists in the design of two pole bandpass filters.

**Status**

Stable.

**Updated**

01 Apr 97

**System requirements**

standalone textual program, requires gcc to compile

**Detail**

*bpf* is a simple text interface program that offers you a menu of options of different ways of inputting design data. After you've entered the data it presents a text based circuit diagram and a list of the appropriate component values. It sounds simple, and it is, but it's also quite cute, and bound to be useful.

**Where and How to obtain it.**

You can obtain `bpf.tar.Z` from *www.atd.ucar.edu*
`<http://www.atd.ucar.edu/homes/cook/software.html>`

**Licensing/Copyright**

GNU Copyleft

# 12 Training/Educational Software.

Software to assist in education or training for amateur radio. Morse Code tutorials, technical examination database, Computer Based Training software, and the like are listed here.

# 13 Miscellaneous Software.

Software that didn't neatly fit into any other category.

## 13.1 twclock - World Time Clock for Hams

**Author**

Ted Williams, `ted@bluestone.com`

**Description**

A world clock designed for ham radio operators

**Status**

Version 1.0, stable.

**Updated**

01 Apr 97

**System requirements**

Motif libraries if you want to recompile it. Just X11 if you want to run the precompiled binaries.

**Detail**

Anyone who needs the time of day someplace else in the world, or anyone tired of the same old look of their clock will find this software of interest. It is implemented with Motif widgets, and will displays the current time in major cities around the world.

**Where and How to obtain it.**

You can obtain the `twclock` package from *sunsite.unc.edu* `<ftp://sunsite.unc.edu/pub/Linux/apps/ham/>`.

**Licensing/Copyright**

GNU GPL

## 13.2 Chirp - Contest Logger

**Author**

Kenneth E. Harker, N1PVB, `kharker@cs.utexas.edu`

**Description**

Contest logging program

**Status**

Active development

**Updated**

01 Apr 97

**System requirements**

Requires ncurses library and header files to compile.

**Detail**

A linux based contest logging program. Kenneth is writing it so he can use it on his laptop while working VHF contests. He is also writing it as an excuse to learn ncurses programming. His goal is a general purpose contest logger that a user can specify new contests in as they come about. It supports all bands and modes.

**Where and How to obtain it.**

When version 1.0 is available, you should be able to find it from the *Chirp Home Page* `<http://www.cs.utexas.edu/users/kharker/chirp/>`

**Licensing/Copyright**

Probably GNU GPL.

**Contributed by**

Kenneth E. Harker, N1PVB, `kharker@cs.utexas.edu`

## 13.3 Contest - Contest Logging Program

**Author**

Carsten Wilderotter, `carsten.wilderotter@student.uni-ulm.de`

**Description**

A logfile program for Contest operation

**Status**

Version 0.0.1, Alpha

**Updated**

01 Apr 97

**System requirements**

No special requirements.

**Detail**

Linux contest logging program.

**Where and How to obtain it.**

You can obtain the `contest` package from: *sunsite.unc.edu*
`<ftp://sunsite.unc.edu/pub/Linux/apps/ham/>`

**Licensing/Copyright**

GNU GPL

## 13.4 Linux for HAMS CD-ROM

**Author**

Bruce Perens, `bruce@pixar.com`

**Description**

A complete linux distribution on CDROM specifically designed for Amateur Radio operators.

**Status**

Not yet available.

**Updated**

01 Apr 97

**System requirements.**

Linux compatible hardware, some software will obviously require specialised hardware to operate. No additional software should be required.

**Detail**

A complete Linux distribution specifically catering for Amateur Radio operators. It will include a fully featured Linux installationplus a range of amateur radio specific software such as those listed in this document. Bruce has detail and updated status report available at the *LinuxForHams WWW page* <http://www.rahul.net/perens/LinuxForHams>. Bruce has been extremely busy with the Debian project and this has reduced his available time to just about zero. He does still intend to pursue this. Why don't you help out by maintaining one of the software packages as Debian packages ? More information from the *Debian Web Site* <http://www.debian.org/>.

**Where and how to obtain it:**

It isn't yet available, details will be made available when it is released.

**Licensing/Copyright**

GNU Public License.

**Contributed by:**

Bruce Perens

## 13.5 SunClock

**Author**

John Mackin, john@cs.su.oz.AU

**Description**

A clock that will show you instantly what parts of the globe are exposed by sunlight and what parts aren't.

**Status**

Released.

**Updated**

01 Apr 97

**System requirements.**

X-Windows.

**Detail**

*sunclock* is another of those desktop gadgets that most people think look nice but really don't have a lot of use for. I use sunclock to obtain an at-a-glance indication of the time anywhere in the world. In its iconic form it sits in a small Mercator projection. When maximised it produces the same image but obviously larger with slightly more detail. It also displays the date, local time and UTC. sunclock actually calculates mathematically what parts of globe are sunlit and which aren't, it seems quite accurate, so long as you assume the earth has no atmosphere.

**Where and How to obtain it.**

I haven't seen any precompiled sunclock binaries for Linux about, so check your nearest *archie* server. sunclock compiled straight out of the box for me.

**Licensing/Copyright**

Public Domain and may be freely copied as long as the notices at the top of sunclock.c remain intact.

## 13.6 Xearth

**Author**

Kirk Johnson, `tuna@cag.lcs.mit.edu`

**Description**

A rotating earth for X-windows root window. It has real life shading, and options for geostatic view, and non geostatic view. A prettier and more modern version of *sunclock* but requires a bit more processing power.

**Status**

Version 1.0.

**Updated**

01 Apr 97

**System requirements.**

X-Windows.

**Detail**

*xearth* is a sophisticated program which draws a colour picture of the earth onto your X Windows display. It offers either an orthographic view as you would see from space or the map like mercator projection. You have a number of options in determining the behaviour of the view. The details are available from the *xearth Home Page* `<ttp://www.cs.colorado.edu/~tuna/xearth/index.html>` and in the documentation which is supplied with the package.

**Where and How to obtain it.**

The source can be obtained from its home site at *cag.lcs.mit.edu* `<ftp://cag.lcs.mit.edu/pub/tuna>` or just about any X11/contrib directory.

**Licensing/Copyright**

Copyright (C) 1989, 1990, 1993 by Kirk Lauritz Johnson. The copyright notice included states that *xearth* is freely redistributable so long as the copyright notice is left intact, and be included in documentation.

**Contributed by:**

Kirk Johnson

# 14 How to contribute or update an entry.

I'd like for this list to be as complete and up-to-date as possible. So I'm keen to hear about any developments or products that I don't already know about, or that the entry is obselete or outdated for.

What I'd like as a minimum set of requirement would be something like the following:

**Name**

The name of the software in question.

**Author**

Who wrote, or ported the software. An email address, or some other means of contacting them is also essential.

**Description**

A single line description of what the software does.

**Status**

An indication of the software's status. Is it still in testing? Is it a production release? Is it still in the design stage?

**System requirements**

What does the software require to run? Does it require X-Windows? Does it need a soundcard? Does it need a certain version of kernel? Does it need other software to support it?

**Detail**

I'm not keen on including a large amount of detail on each piece of software as this would consume a lot of time reading and trying to keep up to date. So instead what I'd like to list is what makes this software unique, anything special about it. Perhaps its most outstanding features, that sort of thing.

**Where and How to obtain it.**

If the software is freely distributable then ftp details would be great. If it is commercial software then the name of the company distributing the software, and an address or telephone number. If it is available only by some other means, say mail order, then details on where and how to obtain it.

**Licensing/Copyright**

Is the software Copyleft? Copyright? Shareware? Public Domain? Restricted in use in any way?

Don't worry if you don't know all of these details, just send me what you do know and I'll list what I can. I'd rather have an incomplete listing than no listing at all.

Please mail any contributions to:

`terry@perf.no.itg.telstra.com.au`

I'd list a packet radio address too but I'm still not properly operational again yet after moving house.

# 15 Discussion relating to Amateur Radio and Linux.

There are various places that discussion relating to Amateur Radio and Linux take place. They take place in the `comp.os.linux.*` newsgroups, they also take place on the `linux-hams` list on `vger.rutgers.edu`. Other places where they are held include the `tcp-group` mailing list at `ucsd.edu` (the home of amateur radio tcp/ip discussions).

To join the Linux **linux-hams** mail list, send mail to:

```
Majordomo@vger.rutgers.edu
```

with the line:

```
subscribe linux-hams
```

in the message body. The subject line is ignored.

To join the `tcp-group` send mail to:

```
listserver@ucsd.edu
```

with the line:

```
subscribe tcp-group
```

in the body of the text.

**Note:** Please remember that the `tcp-group` is primarily for discussion of the use of advanced protocols, of which tcp/ip is one, in Amateur Radio. *Linux specific questions should not ordinarily go there.*

# 16 Copyright.

The HAM-HOWTO, an introduction to Amateur Radio software available for Linux and information on how to configure some of it. Copyright (c) 1995,1996 Terry Dawson.

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