Closed Source
Ham Radio Software
on GNU/Linux

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Introduction

Below is a non-comprehensive list of closed source software useful to the amateur radio operator. I have personally tested all software on the latest Xubuntu LTS GNU/Linux distribution. Things that I tried, but did not work, are also listed and indicated as such. Your mileage may vary.

Of course, there are many more ham-related free and libre open source software packages available under the "Amateur Radio" section in the main repository of many GNU/Linux distributions. The largest collection of ham radio packages is offered by OpenSuse and Debian-derived distributions like Xubuntu LTS and Linux Mint, to name but a few. In Xubuntu LTS, I counted no less than 74 packages.

By contrast, the software listed on this page is predominantly Windows™ software. Hence, `wine`, PlayOnLinux or its commercially supported counterpart, CodeWeavers CrossOver will be required to run this software on GNU/Linux. I do recommend using PlayOnLinux over `wine` as new software installations usually turn out to be rather painless and uneventful. Conversely, `wine` every so often requires fiddling with configuration parameters for new software to run successfully.

Other closed source software is written in Java, a platform-independent compiled programming language. Running Java bytecode requires a machine-specific Java Runtime Environment (JRE). Normally, your GNU/Linux distribution comes with `openjdk-7-jre`. However, for security reasons I choose to run Oracle Java instead.

Threatened with extinction

Many of the authors/copyright holders of below software have gained a re-
spectable age. Suffice to say: "We are all perishable." Unless these authors have
taken extraordinary measures—which I doubt they did—, the copyright and
source code will remain with their clueless relatives once they are no longer
around.

Seems too far-fetched? I don't think so. Have a look at what is left of Kangaroo
Tabor Software CAPMan and WinCAP. Now that the author is no longer
among us, nothing more remains of the great propagation software other than
a hacked web site. By contrast, VOACAP was open-sourced a while ago and is
thriving. It runs on newer Windows™ versions and it even has a Linux port
now, called VOACAPL.

Table 1: Closed source ham radio software that runs on GNU/Linux

icon	name	use	runs on Linux	free of charge	open source	open license
	4nec2	antenna modelling and optimisation	with PlayOnLinux	yes!	no	no
	FLE	fast log entry	with PlayOnLinux	yes!	no	no
	HAMRS	field logger	Ubuntu or Raspbian AppImage	yes!	no	no
	LPCAD	log-periodic antenna design	with PlayOnLinux	yes!	no	no
	SD	DXpedition & contest logging	with wineconsole, see instructions	no	no	no
	TLDetails	transmission line details, losses & match calculator	with PlayOnLinux	yes!	no	no

Call to action

If you are developer:

- Be sure to include your authored material in your testament by
  posthumously granting an open-source license. The GNU GPL is a good
  starting point.

- Be sure that the executers of your testament know how to publish your code as open source. Think about Bitbucket and GitHub.
- Don't be afraid to open source your code while you're still alive. Selflessness is one of the lessons to be learned in this life. You won't lose control over your software; you will only grant others the possibility to fork it. Only open-sourcing will enable your coding project to outlive you.

If you are a current user of closed-source amateur radio software:
E-mail the developers and express them your sincere concerns. Copy above paragraph and/or kindly ask them to have a look at this very web page.

Recently open-sourced

Table 2: Recently open-sourced ham radio software that runs on GNU/Linux

icon	name	use	runs on Linux	free of charge	open source	open license
	MMTTY	RTTY decoder	with PlayOnLinux	yes!	yes! GitHub	yes! LGPL as of 2013.08.01

Commercial software

Table 3: Commercial closed source ham radio software that runs on GNU/Linux

icon	name	use	runs on Linux	free of charge	open source	open license
	Abacom sPlan 6.0	schematic capture	with PlayOnLinux	no	no	no
	ARRL Periodicals		with PlayOnLinux	no	no	no
	Eagle (Light Edition)	PCB layout	natively!	yes!	no	no
	LTspice	Electronic circuit simulation	with PlayOnLinux	yes!	no	no
Win-Test	Win-Test	contest logging, including RTTY	with PlayOnLinux	no, only for DXpeditions	no	no
	WriteLog prior to v10.78	contest logging, including RTTY	with PlayOnLinux	no	no	no

Hardware

Table 4: Ham radio hardware with GNU/Linux drivers

icon	name	use	runs on Linux	free of charge	open source	open license
	Kenwood MCP	transceiver memory control program	with PlayOnLinux	yes!	no	no
	VNA/J	interface to the miniVNA vector network analysers	with Oracle Java	yes!	no	no

Icons

After installation of new Windows™ software, PlayOnLinux can be instructed to create program launchers with icons. These icons are stored in the following directory.

```
~/.PlayOnLinux/icones/
```

Aspiring programmers

Here are a few tips for aspiring programmers and developers of amateur radio software. Following these recommendations will ensure a broad adoption of your software by users with the most diverse operating systems and machines.

- Choose to program in a platform-independent programming language. Python and Java are popular choices which allow the same code to be run on Windows™, OSX and GNU/Linux.
- Employ a distributed revision control system from the outset. Both Hg Mercurial and `git` are excellent choices.
- If possible, use non-binary, human-readable, text-based file formats to store all user data.
- Reuse existing open-source software libraries wherever you can. Qt and GTK+ are popular and proven cross-platform widget tool kits for creating graphical user interfaces (GUI).
- Apply tools and good programming practices for internationalisation and localisation (i18n & L10n) .
- Provide an application interface (API) to your software application and publish it.
- Write good documentation. Comment your code.

- Consider open-sourcing and open-licensing your code. There are many options in terms of permissiveness.