MARL

Magazine by MARL

For Maltese and Gozitan Radio Amateurs

Number 9

August 2006

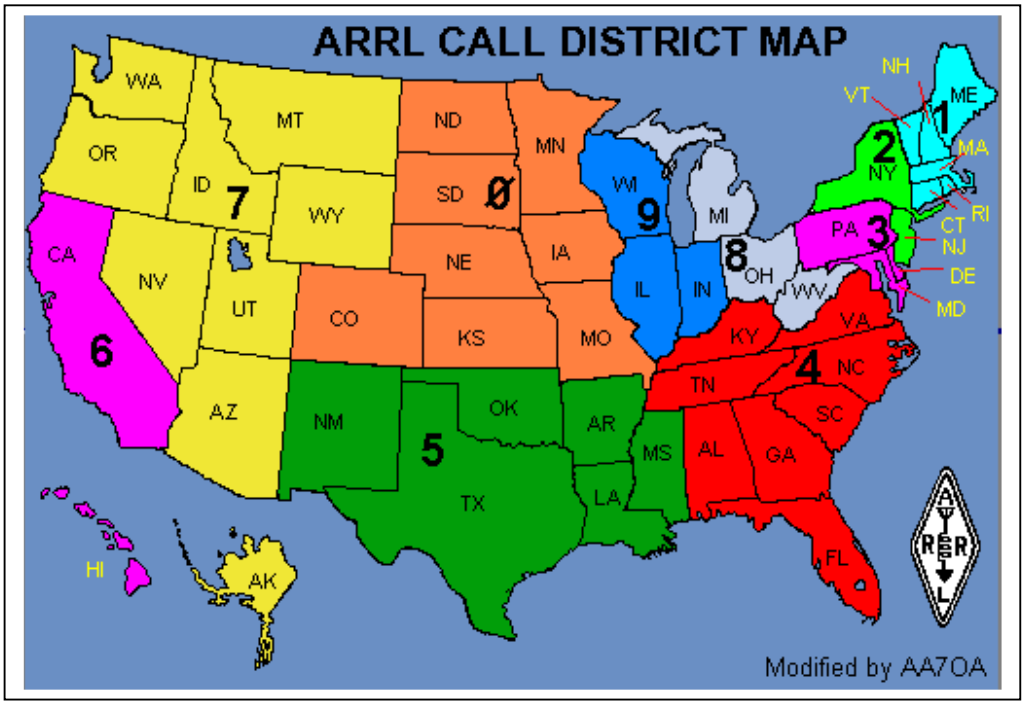
Smoking is prohibited

at the Centre

From the Editor

Friends,
I welcome you again for another edition of this magazine for August 2006, which is the 9th edition in this series.

First of all we remind you that Maltese radio amateurs could go to other countries and operate using that country's prefix followed with their normal callsign.



However, there was a problem with the United States of America where the Maltese licence was not being recognized.

We are now pleased to inform you that this problem has been solved thanks to the initiative of the Committee and the many communications made by the secretary.

This means that now we have official recognition of the Maltese licence by the FCC, that is, the Federal Communications Commission.

Now every Maltese radio amateur who may be in the United States of America can operate there by using the prefix of the State he may be in and continue with his normal callsign.

We are therefore bringing you a map from the ARRL website that shows the USA Districts so that whoever goes there may know when he has to change the prefix when he goes from one district to another

To be able to operate in the USA Dr Barry Cohen, K2JV suggests that you take the following with you.

1. **Your Passport**
2. **Your licence**
3. **A letter from MARL on its stationery stating that Maltese licences are HAREC in conformity with CEPT.**
4. **A copy of ERO document T/R 61-01 that shows Malta as a CEPT member. All CEPT licences are accepted in the USA.**

5. **A copy of the FCC letter that shows that we are acceptable.**

A copy of the FCC letter is found hereunder and is also going to be on the MARL website.

These details were sent by Barry, K2JV, to Ivan, 9H1PI, MARL Secretary.

There will also be a letter by MARL according to number 3 above on the MARL website.

A copy of ERO document T/R 61-01 will also be on the MARL website

Together with these documents you will then only need your passport and a copy of your licence.

It is interesting that CEPT Document T/R 61-02 on page 4 Annex 2 clearly states tat Maltese licences A and B are HAREC.

It therefore appears that there is no need for the letter on MARL stationary, but a copy of this page of document T/R 61-02 should be enough.

A copy of document T/R 61-02 will also be on the MARL website

We would also like to inform you that the secretary communicated with the Wireless Telegraphy Office about the CEPT HAREC Agreement and received an answer on 24 July.

This agreement is about foreign radio amateurs who may be on a visit in Malta and still have to apply to be granted a licence with a 9H3 prefix so as to be able to operate from Malta.

The problem is that apart from this agreement, the Fees Ordinance will have to be amended so that radio amateurs on a short visit would not have to pay for a licence.

This is because no department or person can exempt anyone from paying that which is stipulated in the law, and therefore the Ordinance will have to be amended.

When the Ordinance is amended, they can use the 9H1 prefix followed by their normal callsign and would not have to pay.

Since Parliament is now adjourned for the summer holidays, we will have to wait at least until it is reconvened after these holidays.

We hope that as soon as Parliament meets the Ordinance is amended so that we will be like other countries.

Note from 9H1AV/9H9MHR.
Whoever needs to authenticate a copy of his licence or other documents can contact me. Lawrence.

A copy of the other documents can be obtained from the MARL Centre.

Lawrence 9H1AV/9H9MHR

FCC Letter

Received by e-mail from Federal Communications Commission, Washington DC
July 10, 2006

Dr. Cohen,

Section 97.5 provides that the station apparatus (of an amateur station) must be under the physical control of a person .....authorized for alien reciprocal operation by §97.107 of this part, before the station may transmit on any amateur service frequency from any place that is at a place where the amateur service is regulated by the FCC.

Paragraph (d) of this section includes a CEPT radio-amateur license issued to the person *by the country of which the person is a citizen* (this requirement comes from the Communications Act) as a station license provided that the person must not:

(1) Be a resident alien or citizen of the United States, regardless of any other citizenship also held;

(2) Hold an FCC-issued amateur operator license nor reciprocal permit for alien amateur licensee;

(3) Be a prior amateur service licensee whose FCC-issued license was revoked, suspended for less than the balance of the license term and the suspension is still in effect, suspended for the balance of the license term and relicensing has not taken place, or surrendered for cancellation following notice of revocation, suspension or monetary forfeiture proceedings; or

(4) Be the subject of a cease and desist order that relates to amateur service operation and which is still in effect.

Conditions (3) and (4) seldom apply to visitors to the US. Occasionally foreign visitors will hold an FCC-issued amateur service license in which case the FCC-issued amateur radio license authorizes their operating privileges, or they may be citizens of countries other than the one that issued their license. If (1) and (2) do not apply, then you are correct that Maltese radio amateurs may use their CEPT privileges to operate on amateur frequencies while they are visitors to the USA because the USA is a participant in the CEPT Amateur Radio Program. No additional authorizations are needed.

Marcus is correct that the Public Notice you refer to, DA 99-1098, only deals with US amateurs operating in CEPT countries and not CEPT licensees operating in the US. Foreign operators in the US are covered under Sections 97.5 and 97.107.

William T. Cross
Public Safety and Critical Infrastructure Division
Wireless Telecommunications Bureau
Federal Communications Commission

Certified to be a true copy,
/s/ Barry G. Cohen

A copy of this letter in English is available for download on the MARL website.

News

500khz

Today we have news of another application so that radio amateurs may be able to operate on a frequency of 500khz.

According to the 31 July 2006 RSGB news website, the Irish radio amateurs association applied to the Irish Telecommunications Regulator ComReg for radio amateurs to be granted an allocation on 500khz.

IRTS made its request after the RSGB had made a similar request in 2004 to the UK Regulator Ofcom.

Athough Ofcom has not yet taken a decision the RSGB is hopeful that radio amateurs are going to be granted an allocation between 501 and 504 khz.

There is also the possibility that the frequency of 500 khz will be designated a maritime memorial frequency as God only knows how instrumental it was to save so many lives.

Most countries had stopped using frequencies between 415 and 526.6 khz in the 90's of the last century.

We shall continue to see whether we can do anything, although as we have already told you, the authorities will only take a decision after these frequencies are removed from the maritime service officially by the ITU.

First AM Transmissions

It's good to know that this year is the 100 anniversary when the first AM Transmissions were carried out.

These transmissions were made by Reginald Fessenden on Christmas Eve 1906.

The transmissions were of the well-known "Silent Night" played on the violin by Fessenden as well as readings from the Bible.

These transmissions were made from Brant Rock, Massachusetts, United States and were received by many ships.

You would't believe how time flies.

German details on the Internet

Whoever works with a German amateur radio station can now find its details on the internet. These details are found on the following webpage: http://ans.bundesnetzagentur.de/Amateurfunk/

Lawrence 9H1AV/9H9MHR

Operating near the Red Tower

From Robin 9H1ZZ:

Personal notes regarding operations on HF by MARL near the Red Tower between 6 and 7 June 2006.

Frequencies

We worked on 80/40/20/17/15/10 metres.

Time

We started working at 19:30Z on 6 June 2006. We finished working at 12:00 on 7 June 2006.

Equipment

We used the MARL transceiver HF IC-7400 with a power output of 100 watt on SSB u CW and a power output of 30 watts on PSK31

Antennae:

· Sigma 80 (Force 12, we worked with it on 80 metres (central frequency of 3.680 MHz) and on 17 metres
· G5RV for 40/20/15/10 metres

Operators: 9H1PI, 9H1PS, 9H1RN, 9H1TM, 9H1ZZ

The results we achieved:

· 72 QSOs
· 26 DXCC countries

Detailed results

· 80 metres: 21 QSOs (5 CW; 16 SSB) 12 countries (2 outside Europe)

· 40 metres 3 QSOs (SSB) all Russian

· 20 metres: 36 QSOs (34 SSB and 2 PSK31) 23 countries (6 outside Europe)

· 17-il metres: 6 QSOs (SSB) all USA

· 15-il metres 4 QSOs (3 SSB & 1 PSK31)
· 10 metres 2 QSOs (SSB)

Comments:

Ideal place and weather, but bad propagation nearly on all frequencies, except 17 metres and l-20 metres around 4 in the morning before sunrise.

We generated a number of small pile-ups: Russians on 80 metres (CW); Americans on 17 metres (SSB); French on 20n metres (SSB).

The 80 metre vertical dipole took two persons to unpack and assemble, 4 people to raise it and half an hour to tune it. The T Bar dimensions were those suggested by the Texas DX society.

On assembly, the fully extended tuning coils tuned the antenna to about 4.0 MHz. Fully compressed we could tune to about 3.6 MHz. The bandwidth between the 3.0 SWR points was about 190 kHz. In scanning the antenna, we found one other HF frequency where it also resonated perfectly, about 18 MHz.

The full-size G5RV was installed about 2.5 meters above ground, but had poorly defined resonances often quite a long way from the desired ham band frequencies. The analyzer showed it was operating best on 20 meters.

Notes by 9H1TX

I was informed by Stanley 9H1LO tat they were going to work from near the Red Tower and therefore I thought that I would go and work EME from there because I knew that there was a demand for Malta on EME.

I talked With Dominic, 9H1M, who offered to call for me and take me together with my equipment.

I sent e-mails on the forum and Moon-net to try and arrange skeds and within two days I had skeds with 8 stations.

I had great help from Manswetu, 9H1GB who managed to find me another coaxial relay and also helped me to make the necessary connections to the preamplifier and relays. Thanks Manswetu.

We took two hours to assemble everything and were ready about half an hour before our first sked with **DL7APV**.

Because of interferance I could not work on 430.060 Mhz and therefore I passed the information to Philip, **9H1PA**, to relay on the forum that I was going to change frequency.

In the first sked we did not hear anything and Philip informed me that **DL7APV** could not make it. We were using **CW** and **JT65** (digital mode).

Next was a sked with **DL9KR** on **CW**. He used 16x26 element and amplifier, but will he hear us?

Yes, we heard 9H1MRL/P de DL9KR RO when we were not using the filter. This was my first EME QSO on 432 Mhz.

Later we talked with **HB9Q** who has a 15 -metre dish and 1.5kw JT65 and CW. This was the first **CW 9H-HB9 QSO**.

We also talked with **OK9DFC** 10-metre Dish 10 and 1.5kw **First 9H-OK QSO JT65.**

Big thanks to Philip, **9H1PA**, who was on the logger with skeds for us with **N9AB, JT65**.

What we worked
We worked 4 countries, 5 QSO's and 2 of which were firsts from Malta on UHF.

I am very happy with the good results and we were lucky to always have horizontal polarisation and good conditions.

We also worked some European stations on 144 meteor scatter in the afternoon on 7 July, **DK0GW, OZ6OL, OZ5NM u SP2WYR.**

Thanks to all those who were all the time turning the antennas towards the moon as we did not have any rotators.

Equiment we used

UHF
2x 26ele BV070, ATF58143 0.2NF,TE 4450G -150W,706MK2

VHF
4ele IC 706 10w

73`s David 9H1TX

Information
Italian Map

For those who are interested to know with which part of Italy they are talking or where the station they are listening to is located when they hear his callsign, we are bringing you a map of Italy with the prefixes on it.

This map is taken from the Italian radio amateur's National Organisation ARI internet webpage.

Although the printing is not very clear, we hope that you will find it useful.

This is also useful for those who may go for a holiday in Italy and take their equipment with them.

Lawrence 9H1AV/9H9MHR

Linux and Amateur Radio

What is Linux?

Linux is an *Operating System* for computers. Quite simply, the operating system (OS) provides users with the means to manipulate files and execute programs by providing access to the computer's hardware.

The OS manages the computer's various programs and the memory they use so they don't interfere with each other (assuming the programs are properly written) and governs each program's access to the CPU so that one application doesn't hog the machine.

The OS also manages individual users running programs on the same machine and keeps them from interfering with each other while governing each user's access to various system files and other user's directories through a series of permissions set by the system administrator.

Secondly, the OS provides the means for programmers to access the hardware of the computer and the networks it is connected to. By providing an abstraction of the hardware, programs can take advantage of hardware features through a standard Applications Programming Interface, API.

With Linux's aim of POSIX compliance (an IEEE standard for operating systems) and the use of the GNU C library, it provides programmers with an excellent platform to write programs that are portable to other flavours of UNIX.

Using ANSI C and one of several portability GUI toolkits, programs can also be written for both UNIX and Windows platforms.

Linux is a clone of UNIX, the oft-maligned as difficult to use OS.

While most Linux distributions include the popular command line system administration utilities from the GNU Project, many developers around the world are working to enhance these tools to make them easy to use by desktop users. The goal is a desktop solution easily administered from a workstation's GUI for Intel x86, Motorola PPC, Sun Sparc, Compaq Alpha, Intel Strong Arm, and a host of other micro-processor based computers.

Linux is *Free Software*[1]. What does this have to do with ham radio?

Well, the same pioneering spirit and desire to develop a technology and make it better and then offer it to the community at large, that has historically characterized amateur radio, now also characterizes the Linux community.

Hams used to tinkering with hardware will find Linux a pleasant place to tinker with software as all the major Linux distributions include the tools to create and build a complete software package.

Why use Linux for Amateur Radio?

Given the popularity of MS-DOS and Windows, this is a valid question. For the radio amateur contemplating building an AX.25 based TCP/IP switch or user station, Linux offers a very robust and stable environment.

The typical Linux distribution includes all manner of networking tools including AX.25 specific networking utilities.

Linux is a true pre-emptive multitasking OS with multiple user capabilities which allows you to do other things while your

[1] http://www.gnu.org/

Linux box performs its AX.25 duties with others using the system over the air or via a Local Area Network.

In fact, with sufficient bandwidth a user can execute programs on your box and have the program display its output on their terminal.

Linux helps to put the fun back into using a computer. The full system is available for you to study and tweak, if you care to. Nothing is hidden from view as a result of End User License Agreements (ELUAs) or Non-disclosure Agreements (NDAs).

The Linux kernel (the core management routines), the system utilities supplied by the GNU Project[2], and a multitude of other programs found on most distributions are licensed under the GNU Public License[3] or similar licenses. My Free Software page[4] has additional information.

The latest distributions have made it easier than ever before to install Linux on your computer. If you can free up 500 MB or so you can install enough software to get a very good idea if Linux is for your. I encourage you to read the following pages and the links to other resources and then give Linux a try.

Where do I begin?

The very first thing I'd recommend is getting some reading material. Plan to spend some time getting familiar with the installation procedure and Linux/UNIX terminology and syntax.

Adding a second operating is a bit more involved than installing the latest office suite (although not much harder these days!) and requires some study as there will be new ways of doing things to learn.

TCP/IP Networking over AX.25

Linux is quite capable of being a powerful TCP/IP switch offering all of the popular Internet services over the ham radio packet network.

If you're a bit rusty on TCP/IP based networks, or need to learn more about TCP/IP, networks in general, or network administration, I recommend the following documents available in a variety of formats at The Linux Documentation Project[5].

Network Administrator's Guide -- General networking info (HTML)
Linux Networking HOWTO -- A guide to configuring Linux networking (HTML)
AX25-HOWTO -- A guide specific to configuring TCP/IP on Linux (HTML)

Networking is nice, what else is there?

A number of packages are available for the ham running Linux and more are evolving. A Web page with descriptions of the very latest ham software is available at the Linux Hamradio Applications and Utilities Homepage[6].

Some things not listed at the Linux Hamradio Applications and Utilities Homepage are available at Ibiblio[7] formerly known as Metalab and before that Sunsite, sigh.

Many non-ham specific packages are available and a good place to look is Freshmeat.Net[8] a site dedicated to the latest software announcements for Linux.

Also, don't forget the archives for your particular distribution. The binaries provided are compiled and tested for your

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[2] http://www.gnu.org/
[3] http://www.fsf.org/copyleft/gpl.html
[4] http://www.qsl.net/n0nb/linux/freesoftware.html

[5] Network Administrator Guide http://www.tldp.org/LDP/nag2/index.html
Linux Networking HOWTO http://www.tldp.org/HOWTO/Net-HOWTO/index.html
AX25-HOWTO http://www.tldp.org/HOWTO/AX25-HOWTO/index.html
[6] http://www.linux.org.au/
[7] http://www.ibiblio.org/pub/Linux/apps/ham/
[8] http://freshmeat.net/

system and will require much less effort to get working. If you must have the latest and greatest, then get the source and compile your own.

Programming Opportunities

This section was originally written in early 1998 when Linux was just starting to hit the mainstream. While the main programs in use have certainly changed, the underlying concepts remain.

While there is a fair amount of software already available for ham use under Linux, namely satellite tracking, TCP/IP support, and AX.25 BBS software, I think the development has lagged in one key area--end user software.

By this I mean contest logging software on a par with CT, TR, and others, host mode packet software on a level with Ka/PkGold, radio control/daily logging software, SSTV software, and programs that support APRS (although the SSTV and APRS areas now each have a good package available).

I think these applications are absolutely critical for Linux to become commonplace in the ham-shack. Other nice things will be schematic drawing programs (CAD, already becoming available) and license training software (although web based practice exams may reduce the need for this).

How long it takes for the ham radio market for Linux software to reach "critical mass" depends on how much longer hams are willing to put up with Microsoft's upgrade cycles.

I think it will happen when a majority of hams decide Windows is too limiting for the special things we do with computers in the shack and when moving to Linux doesn't mean abandoning familiar software.

F6FBB has been maintaining versions of his BBS software for DOS, Win, and Linux from a common source tree for a few years now.

So, the sooner we can convince K1EA to port CT and N6TR TR, the sooner the contest community will adopt Linux, same goes for Interflex and KaGold, or any other popular DOS/Win program you care to mention.

Another area I see that Linux support will be needed is the new crop of computer controlled radio hardware.

These products, such as those from Kachina, ICOM, and Ten-Tec are now only operable from within Win9x and not Linux.

These manufacturers should be gently encouraged to port their control programs to Linux or provide interface specifications so that a Free Software version can be written to support their hardware.

As I understand it, Ten-Tec and Kachina have made their specifications publicly available and should be congratulated for doing so. In fact, Ten-Tec has released its Windows code under the GPL and released an extensive Programmers Guide[9]*. Unfortunately, software for Linux has yet to appear.*

Guessing at a time line of when Linux will be the standard in the ham-shack is a bit difficult, but, if I may, I'll go out on a limb. Looking back, ham radio "power users" were early adopters of computer hardware. Many hams bought computers (often built by Radio Shack or Commodore) and put them to work in various tasks around the ham-shack.

The cheap IBM PC clones began to appear in the mid '80s after Jeff WA7MBL wrote his MBL BBS software and YAPP a terminal packet program for MS-DOS systems. About the same time K1EA released CT, a DOS based contest logging program, and the ham radio contest world jumped into the computer world for good.

Next W0RLI ported his popular RLI BBS software, originally written for the Xerox

[9] http://www.tentec.com/Pegdvlp.htm

820, to DOS and by the late '80s virtually every packet BBS was running on an MS-DOS based PC clone.

So by my calculations it took the ham power users about 6 to 8 years to adopt the DOS platform en masse after its introduction in 1981.

However, even in 1991, ten years after the PC debuted and the year Linux was born, a good number of end user hams were using Radio Shack CoCos and Commodore 64 for packet terminals and other minor tasks.

This changed in the early '90s as PCs became almost a commodity product and powerful software offerings from MFJ, AEA, Interflex, and others began to attract the interests of hams.

Windows 3.1 was introduced in 1992 and now a reasonably stable GUI was available for PCs which enticed even more hams and software authors out of the older hardware and in the DOS/Win world.

Now, I see Linux being adopted by more of the ham power users, those wanting the most stable TCP/IP switch or BBS platform available. Hopefully, the next year will produce contest logging software comparable to CT and the next two to three years will produce the "killer" end user ham application that will cause the migration of a majority of hams to Linux.

Here is why I see this happening (these are my opinions only (like the rest of these pages!):

- **Developer costs**

Each new version of Windows requires an expensive Software Developer's Kit from Microsoft and most small commercial or shareware authors will find it costly to support Win 95, 98, and NT all at once.

Linux distributions offer (IMHO the best) professional quality development tools and a stable environment based on published UNIX standards (POSIX) so the APIs won't change with each kernel release.

NO undocumented APIs exist! They can't be undocumented as all the system source code is available for inspection by the developer. The X Window System provides a stable and published API for GUI apps.

- **Low hardware costs**

Hams tend to hang on to hardware longer than the computing population at large.

Thus, there is a large number of mid to high end 486 and low to mid range Pentium systems in ham-shacks that are said to be too limited for Win98, NT and Win 2k.

Linux, however, supports these systems well and probably will for some time in the future. This adds value to currently owned equipment or equipment that can obtained second hand.

Linux wins here as it can effectively multi-task applications and support multiple users on this "obsolete" hardware with ease.

- **Excellent experimenters platform**

A Linux distribution includes an astonishing array of development tools that support practically every programming language in use. A number of libraries exist to make interfacing with the OS and hardware much easier than having to write everything as under DOS.

A standard device driver interface exists in the kernel and it is quite well documented. If there is doubt on how the kernel handles a certain function, the source is always available to provide the answer.

Free Software means never having to settle for an OS whose API is documented one way and works another again (unless you run the latest development kernels).

- **Very robust and stable**

Linux has garnered a reputation of high stability and reliability. While this isn't a high priority for a normal ham-shack user, it is nice to know that even if some program suffers a horrendous crash and "dumps core" (meaning the kernel creates a file of memory data to aid in debugging the program) the OS will very likely keep on going and not miss a beat.

Compare this to messages on your screen saying your system has become unstable and should be restarted...

There are Linux systems with up-times measured not in days, or weeks, but months and probably a couple somewhere a few years or more. Some system administrators have stated that the only time their Linux system has been restarted is to upgrade the kernel or replace hardware.

I for one have gotten so used to my system's stability that even using Win NT at work can drive me nuts!

- **Full networking support including AX.25**

A commercial quality OS that has native AX.25 support? Yup! Nearly all custom ham hardware is supported by the kernel through the AX.25 utilities.

In fact a driver is available to use a SoundBlaster 16 sound-board as a 9600 bps packet modem!

To the rest of the system packet links appear to be just another network interface and all the standard network tools can be used to create the ultimate AX.25 TCP/IP switch, email, ftp, telnet, and http server over packet radio.

- **Secure**

When creating that ultimate server, you want to be sure that programs and users can only access the areas on the system they are supposed to.

With Linux's native multi-user support, these issues are handled well. Even so, other packages such as iptables (ipchains in kernel version 2.2.x) in kernel 2.4.x onward allow you to erect a "firewall" to keep ham, local networks, and the Internet separated.

Security is an important part of Linux's design and many tools are available to help the system administrator with this task.

- **Continuously evolving**

Linux is an ongoing project on the part of many developers worldwide. Interestingly, the current maintainer of the 2.2.x kernel series and oft considered the Second Lieutenant of kernel development, Alan Cox, is GW4PTS.

You can be sure that ham support will probably always be there and up to date.

- **Not owned by one entity**

While all the source code for Linux is copyright of the respective authors, the GNU General Public License ensures that the source code will be made available for all to inspect and change or improve as long as such changes are well documented in the source.

While this might not seem all that important, it is important to realize that Linux will not become a victim of its owner's marketing hype.

It also means that the operating system is owned as much by the user community as by those who develop it.

Obscure bugs affecting a minority of users will not be passed over in favour of feature creep (aka creature feep).

If the bug is vexing enough, someone will fix it and forward the fix to the developers

where it will be added to the main source tree.

This is the biggest advantage Free Software has over its proprietary competition.

Hams benefit since this platform will probably remain more stable than the current commercial offerings in the next 5 to 10 years and perhaps beyond.

The following space is blank due to the difference between the Maltese and English texts.

Activity

On Saturday 19 August from 00.01 to Sunday 20 August 23.59 there is going to be an activity regarding Lighthouses and Lightships. Hs activity is not a contest, but radio amateur will work as much as possible.

Whoever is interested can try to go near the Dellimara lighthouse or any other lighthouse and work from there.

More details on http://illw.net/

MARL Notices

Buy and Sell

The Committee would like to inform you that whoever has something to sell or wants to buy something can contact Stanley Grixti, 9H1LO, on stanley@9h1lo.net so as to be able to make a notice on our website.

The Committee would be grateful to anyone who would be going on holiday overseas who would be kind enough to inform the Committee whether he/she would be able to take some QSL cards and post them in the country that they are going to.

The Committee is making this request because the post is Malta is one of the costliest in the world, so much so that organisations that have a lot of postage are sending a person to Sicily to post them there because they found out that it is cheaper even though they pay for the passage.

(Found on a website)