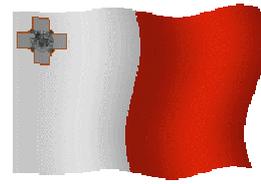


MARL



MALTA



Magazine by MARL

For Maltese and Gozitan  
Radio Amateurs

Number 53

August 2010



## Smoking is prohibited at the Centre

### From the Editor

Friends,

I welcome you to another issue of this magazine for August 2010, which is issue 53 of this series.

Last month an examination was held for those who wanted to get a radio amateur license. We had seven (7) who sat for and passed the examination in writing and are therefore now entitled to a **9H5** callsign.

We had another who is a white stick and he also passed the two papers orally. What is now required is that he is given a little attention in individual sessions and will also be eligible for a **9H5** callsign.

We also had **9H5JQ** who has now sat for and passed the Morse code examination and can therefore now apply for a **9H1** callsign. You can find a list with their names further down in this magazine.

Apart from congratulating these new radio amateurs we want to thank the lecturers who with great dedication took and take great patience to teach new radio amateurs and had it not been for them the number of radio amateurs will be reduced.

Now all that is needed is that as soon as they get their call sign they inform us so that I can put them on the list of Maltese radio amateurs.

As you can see **MARL** is always workign in the radio amateurs interests as well as encouraging new persons to start this hobby. **MARL**'s seriousness is seen by the authorities trusting it hold the necessary examinations that were always conducted with great seriousness.

In this magazine apart from the new radio amateurs that have passed the examination you also have different information as you usually have, among them about a dxpedition to Vanuatu.

You also have information on new distances on **10 GHz** and about a number of contacts that were made for the first time on other frequencies by another dxpedition.

As always, I hope that you find the information in the magazine useful to you and if you have some article please leave it in my **QSL** box or you can send it to me on my e-mail **9h1av at searchmalta dot com**.

**Lawrence**

**9H1AV/9H9MHR/9H79AV**



## Licence examination

We congratulate  
**John Dacoutros**  
**Francis Micallef**  
**Maurizio Banavage**  
**Eleno Borg**  
**Peter Paul Camilleri**  
**Spiridione Caruana**  
**Dean Gravina**

They have all passed the examination and can now apply for a **9H5** call sign.

**Carmelo Caruana** white stick who after some individual training can apply for a **9H5** call sign.

**Joseph Pisani 9H5JQ** who can now apply for a **9H1** call sign because he has passed the Morse code examination.

We congratulate them and thank their lecturers.

**Lawrence**  
**9H1AV/9H9MHR/9H79AV**

### Spedizzjoni DX ghal Vanwatu

A dxpedition is going to be made to **Vanwatu** by four (4) Australian radio amateurs who will be working from there for six days, from 27 August 0001 UTC to 2 September 0100 UTC.

They are going to be led by Chris Chapman who notifies that **YV0VK** are going to be on the main **Vanwatu** island, **Efate** on short wave, with special attention to **WARC** frequencies.

The stations are going to be simple but effective with 100 Watts to vertical antennas and dipoles and an inverted L on 160 metres.

Further information can be found on their internet webpage <http://yj0vk.vkham.com>

According to internet access available, the plans are to update their log at least once a day.

The group is made up of Chris Chapman (Leader), Alan Meridith **VK2CA** (QSL manager and internet webmaster), Luke Steele **VK3HJ** and Benton Vowles **VK3CBV**.

This information was given by **VK3PC** Jim Linton.

Those who want to try to talk to Vanuatu should keep these dates ready and prepare their equipment and antennas.

**Lawrence**  
**9H1AV/9H9MHR/9H79AV**

## Historical Photos

Last time I brought you two old photos of a radio amateurs meeting that was held at the Catholic Institute. With **9H1GB Mansueto**'s help, many of those who appear in the photos were identified. There are still some whom we do not know.

Therefore, this time apart from the magazine you also have a separate publication because I enlarged these photos and made them in landscape view, first of all for people to be more easily recognized and apart from this I can make references so that one can know about whom I am referring.

I am sorry that I still haven't found the meeting date and if there is someone who recognizes someone else whom we still haven't recognized please send me an e-mail.

Just the same if anyone has any photos of this meeting please send me a copy so that I can put them on the magazine to remain for history because these are all part of the history of radio and radio amateurs in Malta as well as of the development of radio amateurs organizations in Malta.

I again wish to appeal to the **Gozo Amateur Radio Society GARS**, so that if they please send me details about the establishment of their organization so that I can also put them on the magazine so that this organization will also be remembered in history.

I encourage you so that if anyone has any photos of activities organized by radio organizations that no longer exist to please send them to me and give me details because they are all part of the history of radio amateurs and our development in Malta.

### **Lawrence**

**9H1AV/9H9MHR/9H79AV**

## 500 kHz

Here you have some details that I have found on the **500 kcs** website on the types of licenses granted to radio amateurs to operate on **500 kHz**.

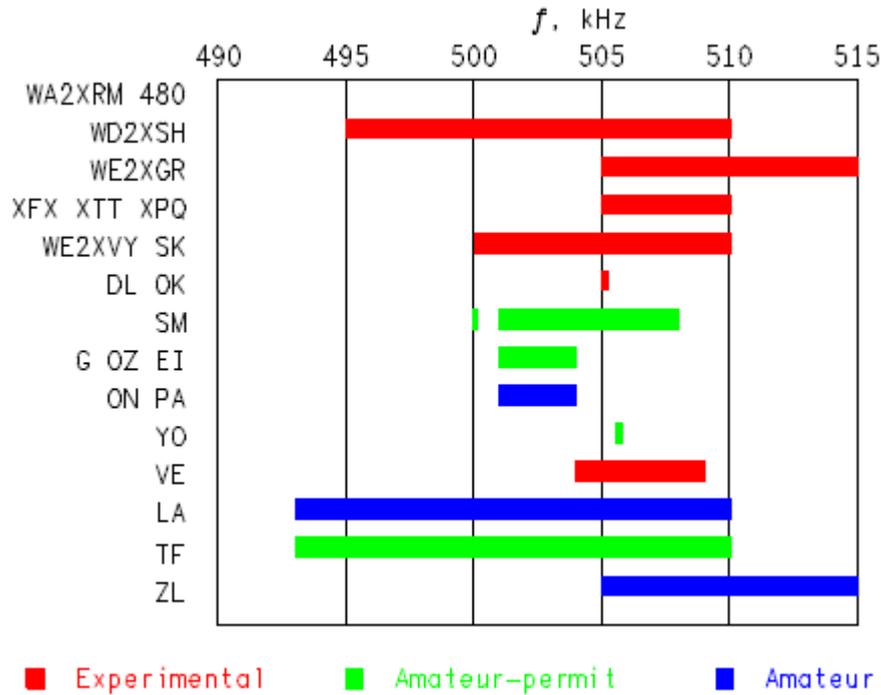
<b>COUNTRY</b>	<b>TYPE</b>	<b>BAND, kHz</b>	<b>ERP, W</b>
<b>Sweden</b>	<b>NoV</b>	<b>500, 501 - 508</b>	<b>20 CW, SSB, data</b>
<b>Germany</b>	<b>Exp</b>	<b>505.0 - 505.2</b>	<b>9</b>
<b>Czech Republic</b>	<b>Exp</b>	<b>505.60</b>	<b>1</b>
<b>UK</b>	<b>NoV</b>	<b>501 - 504 10</b>	
<b>Belgium Amateur</b>		<b>501 - 504 5</b>	
<b>Canada</b>	<b>Exp</b>	<b>504 - 509 20</b>	
<b>Norway</b>	<b>Am/Herit</b>	<b>493 - 510</b>	<b>100 (RF) CW only</b>
<b>Romania</b>	<b>NoV</b>	<b>505.68</b>	<b>100 (RF)</b>
<b>Denmark</b>	<b>NoV</b>	<b>501 - 504 20</b>	
<b>Ireland</b>	<b>NoV</b>	<b>501 - 504</b>	<b>10 CW, PSK-31</b>
<b>Netherlands Amateur</b>		<b>501 - 504 5</b>	
<b>Iceland</b>	<b>NoV</b>	<b>493 - 510</b>	<b>100 CW</b>
<b>New Zealand Amateur</b>		<b>505 - 515</b>	<b>20 200 Hz</b>

**NoV** = Notice of Variation, means that the particular amateur wanting to operate on **500 kHz** has to apply to the authorities for authorization to operate.

**Esp** = experimental

**Am/Herit** = Amateur + Heritage stations because there are some operators who got together and got permission to continue operating coast stations for special events on **500 kHz** in memory of the thousands of persons who have been saved due to this frequency.

Here you have a pictorial diagram from the same **500 kcs** website showing the various allocations.



### The use of 500 kHz

**500 kHz** was used as a calling frequency and also for any distress messages where every ship had to keep watch for three minutes every half an hour so that if a ship had sunk and there were people in a lifeboat with an emergency lifeboat transmitter they could be heard and saved.

It has to be understood that a lifeboat transmitter/receiver was very low power, a couple of watts at most, and it was always operated by a manually operated generator. There was also the difficulty of erecting an efficient antenna for **500 kHz** on a lifeboat, so the antenna usually consisted of a vertical and a wire lead with a small earth plate to be dropped overboard for an earth. Sea water is a very good conductor and is much better than good agricultural land.

Other antennas may also have been in use with particular equipment, such as a kite antenna where a long wire was held aloft by a kite. However, a small vertical which could be assembled was the usual antenna. The transmitter was tuned for maximum brightness as indicated in a neon lamp in the aerial circuit.

It is good to know that the equipment was waterproof and would float so that it could be tossed overboard from the ship and then hauled on a lifeboat. The Morse key was integral with the equipment.

They also used to have an automatic means to send signals to operate automatic equipment so that if the radio officer was not in the radio room because he was resting he would be warned

about it. All those on the lifeboat had to do was to turn a knob and tune the generator handles and the transmitter would send the signals automatically.

This signal consisted of 12 dashes of 4 seconds each with one second spacing between them and equipment that received them would after the fourth dash ring bells in the radio room, in the radio officer's cabin and in the wheel house from where the ship is steered. A 10 second dash was also sent so that they will be able to find the signal direction.

There were at least two purposes for the manual operation of the transmitter receiver.

First of all if it was battery operated the equipment would cease functioning once the batteries were discharged. Batteries also tend to lose their capacity over time and have less capacity in cold weather.

If rechargeable batteries were used they may not have been fully charged and you had similar problems to the other batteries as well as to transport them, the equipment would not be sealed and many other problems.

Another important factor was that people may be exposed to cold weather and therefore they would keep warm by taking turns at turning the generator handles. You would feel the load on the handles when keying the transmitter as those who use bicycles can feel the load when they use their dynamo for the lamp during the evening.

There were different types of emergency lifeboat transmitters – receivers. Some included also the **2182 kHz MF RT** distress and calling frequency, while others also included the **8364 kHz** which notwithstanding the low power of the transmitter had the possibility of being heard over great distances since it is on short wave.

It is also to be noted that the colour of the equipment was international oranges so that it could be easily seen if it was in the water while the equipment had the operating instructions on a plate fixed to the equipment itself. Here you also have further information about distress frequencies.

### **International Distress/Emergency Frequencies**

- 500 kHz:** International Distress and Calling Frequency for Radio Telephony.
- 2182 kHz:** International Maritime Distress and Calling Frequency for Radio telephony.
- 4340 kHz:** NATO Combined Submarine Distress.
- 8364 kHz:** Survival Craft.
- 121.5 MHz:** International Aeronautical Emergency Frequency.
- 156.8 MHz:** International Maritime Distress, Calling and Safety Frequency.
- 243.0 MHz:** NATO Combined Distress and Emergency Frequency.
- 406.0 MHz:** Emergency Position Indicating Locator Beacon (EPIRB).

### **Monitoring of Frequencies**

With effect from 1 February 2009, satellite monitoring of ELT (EPIRB) signals transmitted by aircraft or personal locator beacons on frequencies **121.5 MHz** and **243 MHz** ceased. Such monitoring is now restricted exclusively to the band **406.0 MHz to 406.1 MHz** which is generally referred to simply as **406 MHz**, as in the list above.

**Lawrence**

**9H1AV/9H9MHR/9H79AV**

## International Lighthouse/ Lightship Weekend

I remind you how every year radio amateurs go to operate from lighthouses and lightships. This is organized by the AYR Amateur Radio Group, Scotland.

Some had taken part in this activity and therefore I am reminding you so that whoever wants to can start preparing. This year the activity is going to be held during the weekend between 21 and 22 August.

I know that someone is coming from overseas to try to work from all possible places in Malta and Ghawdex, and therefore its good for those who are going to take part in this activity to know about it.

I remind you that one cannot go to operate from the port breakwater due to security and it is forbidden by the authorities.

One can go to this activity webpage <http://illw.net/> and can download an application form from [http://illw.net/contact\\_us.php](http://illw.net/contact_us.php)

**Lawrence**

**9H1AV/9H9MHR/9H79AV**

## Greek Alphabet

As you know, in radio formulas we use many Greek symbols or rather the Greek alphabet. Therefore hereunder you have the Greek alphabet with the symbols that we use in the Roman alphabet.

Capitals	Small	Greek Name	Roman Alphabet	Maltese Alphabet	In Maltese
A	α	Alpha	a	a	Alfa
Γ	β	Beta	b	b	Beta
Υ	γ	Gamma	g	g	Gamma
Δ	δ	Delta	d	d	Delta
E	ε	Epsilon	e	e	Epsilon
Z	ζ	Zeta	z	z	Żeta
H	η	Eta	e'	e'	Eta
Θ	θ	Theta	th	th	Theta
I	ι	Iota	i	i	Jota
K	κ	Kappa	k	k	Kapa
Λ	λ	Lambda	l	l	Lambda
M	μ	Mu	m	m	Mju
N	ν	Nu	n	n	Nju
Ξ	ξ	Xi	x	x	Xaj
O	ο	Omikron	o	o	Omikron
Π	π	Pi	p	p	Paj
P	ρ	Rho	r	r	Row
Σ	σ	Sigma	s	s	Sigma
T	τ	Tau	t	t	Taw
Υ	υ	Upsilon	u	u	Upsilon
Φ	φ	Phi	f	f	Faj
X	χ	Chi	ch	ç	Çaj
Ψ	ψ	Psi	ps	ps	Psaj
Ω	ω	Omega	o	o	Omega

### Number of Turns

I think that you had occasion to wind a number of turns of different wires sizes when you built something. Especially if you are making something new and you don't have any details, you may find difficulty on how many turns you can wind on a particular length.

Therefore hereunder you have a table of how many turns per inch of enamel insulated copper wire of different sized that one normally uses in our equipment. I remind you that an inch is 25.4 millimetres long.

<b>Size in swg</b>	<b>Turns per inch</b>
<b>20</b>	<b>26</b>
<b>22</b>	<b>33</b>
<b>24</b>	<b>41.5</b>
<b>26</b>	<b>50.3</b>
<b>28</b>	<b>61</b>
<b>30</b>	<b>72.5</b>
<b>32</b>	<b>82.6</b>
<b>34</b>	<b>96.2</b>
<b>36</b>	<b>116.3</b>
<b>38</b>	<b>144.9</b>
<b>40</b>	<b>178.6</b>
<b>42</b>	<b>212</b>

Don't forget that these are approximate but you can still have an idea of how many turns you can make.

### Temperature

Many radio amateurs sometimes have to see that their equipment temperature does not increase beyond a certain amount. Other radio amateurs also have a cooking hobby and when they cook something they have to keep to the temperature especially if they are making something new.

Many if not all know how to convert temperature from celsius to fahrenheit or back with these formulas

Celsius to Fahrenheit = Temperature Celsius x 9/5 + 32

Fahrenheit to Celsius = Temperature Fahrenheit -32 x 5/9

But how much better if one had a table ready to have a look at instead of having to work with the formula?

Therefore hereunder you have a table about how much a temperature in Centigrade degrees or better according to the official term Celsius is when you change it to Fahrenheit.

<b>Temperature Celsius</b>	<b>Temperature Fahrenheit</b>
<b>0</b>	<b>32</b>
<b>5</b>	<b>41</b>
<b>10</b>	<b>50</b>
<b>15</b>	<b>59</b>
<b>20</b>	<b>68</b>
<b>25</b>	<b>77</b>
<b>30</b>	<b>86</b>

35	95
40	104
45	113
50	122
55	131
60	10
65	149
70	158
75	167
80	176
85	185
90	194
95	203
100	212
105	221
110	230
115	239
120	248
125	257
130	266
135	275
140	285
145	293
150	302
155	311
160	320
165	329
170	238
175	347
180	356
185	365
190	374
195	383
200	392
205	401
210	410
215	419
220	428
225	437
230	446

Lawrence

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**A new record on 10,000 GHz SSB: 2696 km \***

A distance never achieved before on this frequency was established on 10 July 2010 at 10.46 UTC from the Cape Verde Islands to the southern part of Portugal by the “HYPERATLANTICA 2010” DXpedition.

All the six D44 operators contacted Portugal (CT) before 11.10 prior to continuing tests on other frequencies.

The group thanked everyone who took part in these experiments and the groups were the following.

**D44** is found in locator (**HK86NU**):  
**D44TD**, with thanks for the logistic support in Cape Verde.

**D44TAX/HB9AYX, D44TEF/HB9EOF, D44TOI/HB9BOI, D44TRD/HB9RHD,  
D44TXV/HB9RXV, D44TZN/HB9AZN**  
**CT (IM57OR): CT7/F1PYR, CT7/F6DPH, CT1HZE**  
**CN (IM52JH): CN2CT (F2CT)**  
**EA8 (IL28XQ): EA8/F5BUU, EA8/F1URI, EA8BFK**  
**CT3 (IM12NP): CT3/DG1GGH, CT3HF**  
**Back office in HB: HB9ACA**  
**Technical support: HB9DUG**

Apart from this, the project had help from many other supporters (ID Electronic, Flexayagi, TAP), to whom the team expressed their sincere thanks. They had been preparing for more than one year, made an attempt in 2009, and improvements their equipment to reach their almost impossible objective of breaking the existing distance from 2070 to 2696 km!

It should be noted, that the 2070 km world record had been broken for the first time on the same day between **D44** and **CN2CT** with 2200 km at 08:55 UTC.

Without any doubt the 10th of July 2010 will remain in history as a mile stone for all participants, since apart from the world record, a number of contacts were made between the groups:

**D44 – CT (2696 km) : several contacts on 144 MHz, first QSO between D44 and CT on 5.7 GHz and first QSO D44 – CT on 23cm with CT1HZE.**

**D44 - EA8 (1591 km): almost permanent link on 144 MHz (service channel).**

The group thanked the **EA8** group who worked in an excellent manner as coordinators and relay between **D44 and CT**. The Canary Islands are located almost midway of the link **D44 – CT**.

**D44 – CT3 (1852 km): first bilateral contact D44 – CT3 on 10 GHz.**

**D44 – CN (2200 km): almost permanent contact on 144 MHz (Service Channel) and first world record in SSB on 10 GHz with CN2CT (10 July).**

**EA8 – CT7 (1116 km): almost permanent link on 144 MHz and 14 MHz.**

**EA8 – CN (614 km): contacts on 144 MHz and 14 MHz.**

**EA8 – CT3 (520 km): contacts on 144 MHz.**

It should be noted that all these QSOs were achieved in SSB with signal reports up to S9+.

The Hyperatlantica group also thanked **Manfred/HB9ACA** for his excellent support as back-office in Switzerland as well as for his information on the propagation conditions and the weather forecasts.

They also thanked those whom they called SW experts for their help in managing the CW traffic and the service channel on the 20m band.

They also thanked the former world record owners, DL 4AM and DJ3KM whom they said had motivated them to realize this unforgettable experience!

They are also preparing a website with additional information (photos, signal record, etc) on the project and on the Hyperatlantica 2010 expedition.



Further information can be acquired from: [info@hyperatlantica.ch](mailto:info@hyperatlantica.ch)

Their internet webpage is [www.hyperatlantica.ch](http://www.hyperatlantica.ch)

\* based on GPS coordinates

**Lawrence**

**9H1AV/9H9MHR/9H79AV**

### **Different Metals**

Everyone knows that after some time that one had made his antenna, it does not remain the same and when you put it down you will see that in many instances there is heavy corrosion and sometimes it will be so great that parts of the antenna disintegrate. An example that everyone knows about is the television antennas where everyone knows how they disintegrate and if you succeed in taking one down they disintegrate as soon as you touch them and fall to pieces.

This happens if we have different metals touching each other especially when they are outside exposed to rain and humidity, but this also happens when they are dry. Here I am not speaking about boxes and other items such as isolators made of plastic to which the sun causes great damage and they end up disintegrating, because that is another issue.

There are metals called anodic and there others called cathodic. Although corrosion is always going to be there when different metals are used, this will be much less when the metals used are either anodic or cathodic and not a mixture of the two.

Apart from this. The more the metals are separated from each other on the list that you will find further down, the greater will be the corrosion. Therefore, one should ensure to use similar metals or when we cannot use the nearest ones.

The metals called cathodic eat away the metals called anodic and one can see the effect on ships where zinc anodes called sacrificial anodes because they are sacrificed because they are eaten away are used to prevent other ship metals from being eaten away themselves. The list is hereunder.

Magnesium

**ANODIC**

Aluminium

Duralumin

Zinc

Cadmium

Iron

Chromium Iron alloys

Chromium Nickel Iron alloys

Soft Solder Tin-Led alloys

Tin



Lead

**CATHODIC**

Nickel

Brasses

Bronzes

Nickel Copper alloys

Copper

Silver Solders

Silver

Gold

Platinum

Therefore choose metals that are near each other and if possible either they are on the Anodic or Cathodic list. If you cannot just the same choose them nearest to each other, but you will have to service your antenna or where you have used them more frequently.

**Lawrence**

**9H1AV/9H9MHR/9H79AV**

**MARL Activities**

**Yahoo Group**

**Be attentive and become members in the yahoo group to be fully informed with the latest activities that we intend to hold.**

**Do not forget that we may have activities which may not be able to appear on this magazine because it may have already been issued and therefore the notice will be sent on the yahoo group.**

**Send an e-mail to Ivan, 9H1PI ivan.privitera at gmail.com to become members in the group.**

**We remind you that whoever wants to can download the Magazine from [www.9h1mrl.org/newsletter.htm](http://www.9h1mrl.org/newsletter.htm)**

**Lawrence**

**9H1AV/9H9MHR**