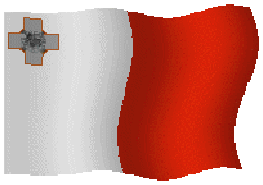
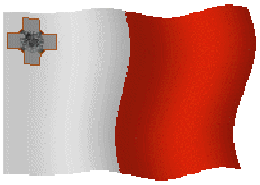


MARL MALTA



Magazine by MARL

For Maltese and Gozitan Radio Amateurs

Number 52

July 2010

Smoking is prohibited at the Centre

From the Editor

Friends,
I welcome you to another issue of this magazine for July 2010, which is issue 52 of this series.

The secretary wishes to inform readers that the examinations to get the amateur radio license are going to be held this month and details are found further down in this magazine. All those interested should not miss this opportunity, because although exams are held, the quicker you do the exams the quicker you can get your license and talk to other radio amateurs.

In this issue you have two photos that one can call historical of the meeting that was held at the Catholic Institute a number of years ago as a result of which the **Malta Amateur Radio Society** (**MARS**) and the **Central Amateur Radio Society** (**CARS**) united for the **Malta Amateur Radio League** (**MARL**) to be born.

The majority of those who appear in the photos are still with us, but there are some who have left us, both because they have emigrated to other countries and we salute them, as well as because they went to be united with the Lord and we pray for them.

Here I want to say that some had brought to my attention that previously in November a mass used to be held for the souls of departed radio amateurs and which now appears that it is no longer held and asked me to bring this to the attention of the committee.

I think that it was a good thought and tradition tat one remembers those radio amateurs that have left us and it would be good for this mass to be held again, but I leave it for the Committee to decide.

Lately I had sent an e-mail to the yahoo group because there was a radio amateur who was going to make printed circuits for an automatic antenna tuning unit of which I had made one. I also heard someone say that he wanted to buy one and it was going to cost him more than €200.

There were some who asked about it on the yahoo group and I suggested that they meet together and do it because it will cost them something around €100 or a little bit more. I similarly suggest to everyone because it will not only be cheaper, but you will have made it yourself and would know exactly what you did apart from learning more. It is a good project to do it yourselves or together at the **MARL** centre.

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

The Malta Amateur Radio League (**MARL**) is going to hold an examination for those who want to get an amateur radio license. This examination is going to be held at the **MARL** Centre in Notabile Road, Ħ'Attard on **Saturday 17 July**.

The examination is in two parts : written between **09.00 a.m. and 11.15 a.m**. and practical Morse code from **12.00 a.m. to 13.00 p.m.**

You should know that if the candidates finish the written examination before the allocated time, the Morse code examination will start before the notified time, and therefore please be there little early.

Applications should be handed in up to Sunday 4 July together with a colour copy of the identity card from both sides and on your application write your cell phone number and e-mail address.

The written examination costs **€35** while the Morse code examination costs **€7**. For further information ring the Secretary on **79437808** or e-mail to Exam Info or personally at the **MARL** Centre Tuesdays and Saturdays between 6.00 p.m. and 8.00 p.m. and Sundays between 10.00 and 12.00 a.m.

Lawrence
9H1AV/9H9MHR/9H79AV

Historical Photos

Today you have two historical photos that I found in my old photos collection. These two photos are of the meeting that was held at the Catholic Institute for **MARL** to be born.

Appearing from left to right in this photo are **1 ?, 2 ?, 3 Karmenu 9H1AQ**, **3 Tony 9H1FG**, **4 Charles 9H1FT – N4JQH**, **5 ?, 6 ?, 7 ?**

Front left to right, **?**, **Chris 9H1BW**, **?**, Second row **Emanuel 9H1FW** – **9H4S**, **Lawrence 9H1AV - 9Ħ79AV - 9Ħ9MĦR**.

In there is anyone who knows the date or if there is anyone who recognizes someone else please send me an e-mail. The same if someone has any other photos of this meeting please send me an a copy so that I can put it in the magazine to remain for history because these are all part of the history of radio and radio amateurs in Malta as well as developments of Radio amateurs organizations in Malta.

Here I wish to make an appeal to the **Gozo Amateur Radio Society GARS**, so that if they please send me details about the setting up of their organization to put them in the magazine so that this organization will also be remembered in history.

Lawrence
9Ħ1AV/9Ħ9MĦR/9Ħ79AV

Atlantic hurricane season

As you know, in the Atlantic, summer is the hurricane season near America. This season is considered as being from 1 June to 30 November every year. These hurricanes cause widespread damage and even loss of life, both due to the strong winds, high waves as well as heavy rainfall.

Therefore, radio amateurs in the Atlantic countries have groups who are always ready to give their help as we in Malta have the **MARL** emergency group.

Because of this, there are frequencies that are specifically used and it is asked that if there is a hurricane in progress everyone should be careful not to use these frequencies and not to cause interference because it could mean loss of life.

Hereunder you have a list of frequencies that are used by these groups and radio amateurs in Region 1 should be attentive by listening on them before using them and not to use them if there is emergency traffic going on them.

14.300 MHz is used by the **Maritime Mobile Service Net http://www.mmsn.org/** every day as well as for traffic from Maritime Mobile Stations, and to collect weather reports from maritime stations to help to assist forecasters.

14.325 MHz is used by **Hurricane Watch Net http://www.hwn.org/** which system enters into effect every time a storm may affect the US mainland. The system gathers weather information and links with the American National Hurricane Centre.

14.265 MHz is used by the **Salvation Army Team Emergency Radio Network** (**SATERN http://www.satern.org/**) that provides Health and Welfare traffic links in the affected areas as well as supporting the Salvation Army Disaster relief response should a hurricane strike.

Frequencies used in Cuba
7.045 MHz, 7.080 MHz, 7.110 MHz u 3.740 MHz

Frequencies used in Central America

Red Centro Americana:	**7.090 MHz u 3.750MHz**
Guatemala:	**7.075 MHz**
Nicaragua:	**7.098 MHz**
Mexico (**FMRE**)	**3.690 MHz and 7.060 MHz**

Cuba and Mexico co-operate with long distance relays on 40m when propagation allow this to be possible.

Local emergency communications groups may also activate if a hurricane approaches their area and those frequencies would be announced at the time.

Therefore, listen carefully before using these frequencies so as not to cause interference if emergency traffic is being conducted on them and if you are using them listen and give a pause every now and then because although in the beginning there may be no propagation to and from those areas, while you are using them propagation may open up and you cause interference that may mean loss of life.

Lawrence
9H1AV/9H9MHR/9H79AV

500 kHz

I remind you that these countries gave permission to their radio amateurs to work on this frequency.

Sweden	**500, 501 - 508**
Germany	**505.0 - 505.2**
Czech Republic	**505.60**
UK	**501 - 504**
Belgium	**501 - 504**
Canada	**504 - 509**
Norway Am/Heritage	**493 - 510**
Romania	**505.68**
Denmark	**501 - 504**

Ireland	**501 - 504**
Netherlands	**501 - 504**
Iceland	**493 - 510**
New Zealand	**505 - 515**

And Malta ????

Lawrence
9H1AV/9H9MHR/9H79AV

70 MHz

Today you have more news on the granting of permission so that radio amateurs may work on the frequency of **70 MHz**.

San Marino

Antonio, **IK4PMB** was in contact with **Tony, T77C**, who informed him that the authorities in San Marino had given permission to radio amateurs to be able to operate between **70 MHz** to **70.5 MHz** until 31 October 2010 with a power of **100 Watts**.

Slovakia

OM3EI said that in 2009 Slovakia had given permission to radio amateurs to work on **70 MHz** for a year, but they can apply again this year and he hoped to continue in the future.

He said that licenses issued in 2010 had been updated: **70,190 MHz -70,215 MHz** (**ĊW, SSB u MGM**) u **70,300 MHz -70,350 MHz** (**ĊW, SSB, MGM and FM**). Max power **10 W ERP**.

Italy

This year the Italians have again been given a license to work on this frequency and the license is valid until 30 November 2010. Otherwise conditions as in previous years i.e. **70,100 MHz, 70.200 MHz** and **70.300 MHz** all **+/- 12.5 kHz, 25 W EIRP.**

Spain[1]

Spanish radio amateurs have again been given permission to continue working on this frequency up to 1 July 2011. This allocation is from **70.150 MHz -70.200 MHz**. Power **10 W ERP**.

United Arab Emirates[2]

Since July 2009 the United Arab Emirates gave permission to radio amateurs to operate on 4 m. The allocation is as secondary service from **70.0 MHz to 70.5 MHz**. Power **100 W**.

And Malta ????

Lawrence
9H1AV/9H9MHR/9H79AV

[1] http://www.mityc.es/telecomunicaciones/Espectro/radioaficionados/Documents/Resolucion70MHz.pdf
[2] http://www.tra.gov.ae/download.php?filename=spectrum_affairs/Regulations%20for%20Amateurs_En%20Ver%201.0%20(unsigned).pdf

International Lighthouse/ Lightship Weekend

As you know 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 Għawdex, 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**

Lawrence
9Ħ1AV/9Ħ9MĦR/9Ħ79AV

Aegean Group

The Aegean group PO Box **04 SAMOS GR 83100 HELLAS** – Greece wish to remind you that their contest on **6 metres** and **VHF** is going to be held between 3 and 4 July 2010.

A number of stations with special call signs are going to operate throughout Greece on every mode, that is, **CW, SSB, FM, RTTY, SSTV, PSK** etc.

This is an opportunity for **QSL** cards collectors and for those who want to get some certificate from Greece for **6 metres** and **VHF**.

The contest is going to ne held according to IARU region 1 Bandplan for **50MĦz, 144MĦz and 432MĦz**. As **FM** on **6 metres** is not permitted in Greece this mode is not going to be used on this frequency.

Further information can be found on **www.aegeanDXgroup.gr** << contest >> or by e-mail to **SV2DCD Leo** contest manager, **sv2dcd @ yahoo.com** or by means of a letter to

AEGEAN DX GROUP
P.O. BOX 4
Samos Isl GR 83100
HELLAS-Greece

Thanks to **Ivan 9H1PI** for this information which was sent to us by **Vassilis Tzanellis SV8CYV sv8cyv @ gmail.com**

Lawrence
9Ħ1AV/9Ħ9MĦR/9Ħ79AV

Thanks for the Tx that we were given

As I told in the last issue after we succeeded in acquiring a transmitter that was used as an aircraft beacon and saved it from being scrapped, the President sent a letter of thanks to the person in charge. This person then sent his thanks for the letter of appreciation that was sent to him by means of an e-mail to the President.

17 June 2010

Dear Fortunato
I am in receipt of the MARL letter acknowledging the transfer of Aerocom 1kW transmitter S/N263 from our site at Benghajsa to MARL, as a donation from MATS Ltd. This transfer has been endorsed by Malta Communications Authority on the understanding that the equipment is not in use any longer on the aeronautical band.

Best regards,
Robert

Coaxial cable losses

Everyone knows that in every transmission line of whatever type there are always signal losses. As everyone knows the lowest losses is in those transmission lines that are made with parallel feeders without insulation between them or with isolators between them at certain distances to keep the same distance between the wires.

These wires have to be kept in straight lines as much as possible and where it is necessary to have turns the turning should be made as long as possible so as not to change their impedance and be kept away from metals.

There are also other types known as coaxial cables that always have greater losses than other lines, but the fact that coaxial cables can be turned in a small radius without changing their impedance, can be buried and there are not many problems in passing them as there is in balanced feeders previously mentioned while the outer shield acts as a screen to stop interference from entering into the centre conductor as well as nowadays equipment is made to work with coaxial cables, their use is extensive.

To give an example, losses means that if you have a loss in the transmission line of 3 dBs, only half the signal arrives at the antenna, that is, if you are sending 100 Watts only 50 Watts will arrive at the antenna and the rest serve only to heat the transmission line.

This also applies when an antenna is being used for a receiver, that is, if we take the same case of a transmission line loss of 3 dBs, only half the signal captured by the antenna will arrive at the receiver.

But while in transmission you may to a certain extent increase transmission power to make up for the loss that you have in the transmission line if the transmission line can carry it, if the signal that you want to receive is very small it can be lost in the line or you may not have enough signal to hear it well.

The solution of increasing transmission power will cost you much more money because apart from the equipment you also have to consider electricity consumption that you had increased, while if the signal is lost in the transmission line you can do nothing to get it back.

Therefore, it is important to match the transmission line impedance with the antenna impedance, while using a transmission line that has the lowest possible losses and as short as possible because the shorter it is the lower will be your signals losses.

Although there are other transmission lines such as the G-line named after its inventor George J. E. Goubau and also others, I am limiting myself in this short write up to coaxial cables.

To help you in your choice, hereunder you have the signal losses in different coaxial cables in dBs for a length of 10 metres. For a one metre length, divide by 10 and for a 100 metre length multiply by 10. For other lengths divide by 10 to get the loss in one metre length and multiply by the length of coaxial cable that you have.

Type	**Frequencies MHz**					
	144	**432**	**960**	**1296**	**2000**	**2400**
RG174	**3.4**	**6**	**9.29**	**11**	**0**	**0**
RG58	**2**	**4**	**7.6**	**9**	**15.5**	**0**
RG213U	**0.82**	**1.5**	**2.33**	**2.6**	**5.18**	**0**
H100	**0.49**	**0.88**	**1.33**	**1.6**	**0**	**0**
W103	**0.45**	**0.75**	**1.3**	**1.5**	**2.1**	**0**
LDF250	**0.38**	**0.65**	**1.12**	**1.3**	**1.7**	**1.87**
LDF450	**0.25**	**0.4**	**0.712**	**0.72**	**1.07**	**1.17**
ECO15	**0.34**	**0.61**	**0.98**	**1.14**	**1.47**	**1.63**

I hope that you find this information useful.

Lawrence
9H1AV/9H9MHR/9H79AV

General Information

Today I thought about bringing you a little general information about our hobby This information is very useful because it gives you information on electronic equipment and other information that I have no doubt you shall find useful.

Coloured wires in equipment

As everyone knows insulated wires are used in electronic equipment with different insulation colours. They are not used carelessly, but every colour is used for somethign particular. Therefore, when one is examining a circuit s/he can know for what colour s/he should search for some part of a particular circuit

In the same manner, if one is makinf some equipment him/herself, s/he should try to use teh same colours as are used in commercial equipment, both to keep with the commercial practice so that whoever sees or is repairing the equipment will be correctly uided, as well as to show that he knows how things are done and used in industry.

However, one should not work haphazardly and because soem colour is used for something particular he should accept that it is used in that particular equipment for that particular use, because whoever had built it may not have followed commercial practice. Therefore, although colours give you an indication, you should always be careful and follow the circuit by following the wires from one end to the other.

Where a great number of wires are required, normally the insulation will be white and there would be different colour bands taht are either separate or like a spiral along the wire length. It may be taht more than onel colour band is used and in that case the wider band is the first colour.

To be able to recognize for what the different colour wires are used in electronic equipment, hereunder you have a table that shows you this.

Colour	Type of circuit
BLACK	**Earths (grounds), earthed elements, returns (negative pole)**
BROWN	**Heaters or filamenti, not earthed**
RED	**B + positive pole**
ORANGE	**Grid 2, transistors base 2**
YELLOW	**Cathode and transistor emitter**
GREEN	**Grid 1, diodes anode, transistors base 1**
BLUE	**Anode, transistors collettor**
VIOLET	**Power Supply, negative pole**
GREY	**AC mains power supply**
WHITE	**bias, B or C minus, AGC**

I made the yellow colour and white on a blue background because they would not appear correctly on a white background.

Multipliers

Everyone knows how much in our hobby we use expressions such as kilo, mega, micro, pico and similar expressions when we are speaking about formulas that are usen in electronics. We speak about microfarad, picofarad, millivolt, milliampere, microampere, megohms, megacycles, metres, millimetres and similar expressions.

We use them when we want to mean how much that measurement that we had made or that we are reading means, for example, if we say 500 milliamperes we mean that there is a current of half an ampere flowing through that circuit. In the same manner when we say 5 microvolts we mean that there are 5 millionths of a volt in that part of the circuit.

But how do we write them in an abbreviated form and how much exactly do they mean? Hereunder you have a table that shows you this.

Prefix	Symbol	Multiplier
Tera	**T**	10^{12}
Giga	**G**	10^{9}
Mega	**M**	10^{6}
Kilo	**k**	10^{3}
Hekto	**h**	10^{2}
deci	**d**	10^{-1}
centi	**c**	10^{-2}
milli	**m**	10^{-3}
mikro	***μ***	10^{-6}
nano	**n**	10^{-9}
piko	**p**	10^{-12}

Transformers

Hereunder you have information on transformers and wire colours that are used in different transformers that one finds in electronic equipment.

IF Transformers

IF Transformers are found in superhet receivers.

BLUE	**Anode**
RED	**B+**
GREEN	**Grid or diode anode**
BLACK	**the other side of the grid or diode anode**
GREEN and **BLACK**	**secondary coil centre-tapped**

If the secondary coil of the IF transformer is centre tapped, **the second diode anode wire may be striped GREEN** and **BLACK and the centre tap wire will be BLACK**.

Audio Transformers

These markings also apply to transformers used from line to grid and from valves to line.

BLUE	**Anode end of primary coil**
RED	**B+ both when the primary is single or centre-tapped**
BROWN	**Anode start of the primary coil if centre-tapped. If polarity is not important this may be BLU.**
GREEN	**Grid end of secondary coil**
BLACK	**Grid return both if the secondary coil is single or centre-tapped**
YELLOW	**Grid start of the secondary coil if centre-tapped. If the polarity is not important this may be GREEN.**

I used a blue background because yellow does not appear correct on a white background.

Mains Transformaturi

BLACK	**Primary winding. If tapped the common is BLACK, the tap wire will be striped YELLOW and BLACK. The end will be striped RED and BLACK**
RED	**High Voltage. Centre tap striped RED and YELLOW**
YELLOW	**Rectifier heater coil. Centre tap striped YELLOW and BLUE**
GREEN	**Filament winding number 1 centre tap striped GREEN and YELLOW**
BROWN	**Filament winding number 2 centre tap striped BROWN and YELLOW**
SLATE	**Filament winding number 3 centre tap striped SLATE and YELLOW**

I hope that you find this information useful, but as I told you be careful because it may be that someone may not have used these colours or changed some wire and changed the colours. However, these colours give you an idea of what you cn expect, but always be careful about high voltage because you cannot play with that. You don't get a second chance.

Lawrence
9H1AV/9H9MHR/9H79AV

MARL Activities

License examination

The Malta Amateur Radio League (MARL) is going to hold an examination for those who want to get an amateur radio license. This examination is going to be held at the MARL Centre in Notabile Road, Ħ'Attard on Saturday 17 July.

The examination is in two parts : written between 09.00 a.m. and 11.15 a.m. and practical Morse code from 12.00 a.m. to 13.00 p.m.

You should know that if the candidates finish the written examination before the allocated time, the Morse code examination will start before the notified time, and therefore please be there little early.

Applications should be handed in up to Sunday 4 July together with a colour copy of the identity card from both sides and on your application write your cell phone number and e-mail address.

The written examination costs €35 while the Morse code examination costs €7. For further information ring the Secretary on 79437808 or e-mail to Exam Info or personally at the MARL Centre Tuesdays and Saturdays between 6.00 p.m. and 8.00 p.m. and Sundays between 10.00 and 12.00 a.m.

We wish you success.

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

Lawrence
9H1AV/9H9MHR