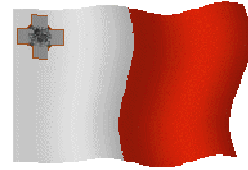


MARL



MALTA



Magazine by MARL

For Maltese and Gozitan
Radio Amateurs

Number 43

October 2009



Smoking is prohibited at the Centre

From the Editor

Friends,

I welcome you to another issue of this magazine for October 2009, which is issue 43 of this series.

Among the **MARL** on Saturday 26 September a pasta night was held where the members, their families and friends could eat good pasta at the **MARL** Centre. Such activities bring together the radio amateurs and their families where they would get to know who is the speaking in front of the microphone or using the Morse code key. As soon as I have some photos I will put them on this magazine.

In this magazine you have some information on **IRC's** because they are going to be changed and will no longer be exchanged after next December. Therefore be attentive to quickly exchange those that you presently have.

For those who put their antennas high up you have some information on high towers so that if you want to you can try to make something similar. What I tell you is that you have to have quite some money.

You also have a few internet webpage links from where you can download information about sunspots as well as another webpage from Agilent Technologies where you find some interesting calculators etc. programmes.

Other pages are about Aurora, our Solar System, as well as small satellites that use amateur radio frequencies to send their telemetry to earth. They are made by universities to train their students and it is a sin that the University of Malta has not yet made one of them to put Malta and the University itself on the satellites map.

Something which is causing worry is the introduction of what are called "smart meters" that have the purpose of sending information about the electricity and water consumption to the collection centre or centres for consumer bills to be sent.

They are going to use a frequency of **868 MHz** which is double our frequency of **434 Mhz** on the **70 centimetre** frequency band. This is apart that these transmissions can also cause interference by their information transmission.


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

Problems for the Mind

Today you have the answer to the little mind twisting problem found in the last magazine. I am going to leave the problem as set last month so that you will know what we had asked.

A hotel with eight floors

Eight floor	Lamp	
8		
7		
6		
5		
4		
3		
2		
Three switches		

Today we meet someone who works in a hotel and he had a problem. He was downstairs where there were three electricity switches one of which was to light a 100 Watt bulb on the eighth floor

The problem was that he wanted to know which switch lighted the bulb, but he didn't have any test equipment to see which one lighted it such as a screwdriver, meter, etc in fact we can say that he had absolutely nothing

However, he didn't want to switch the switches one by one and every time go up the stairs because there was no lift. He only wanted to go up once. What did he do to solve the problem?

The answer is rather simple. Note that the bulb had a rating of 100 Watts. So what did our friend do to go up only once to see which switch switched on the lamp on the eight floor?

First he switched on **switch 1** and left it on for a few minutes. Then he switched on **switch 2** and also left it on for a few minutes. Then he went upstairs to check the lamp. If the lamp was just warm to the touch then **switch 1** was the one that switched it on. If it was still rather hot then it was **switch 2** that switched it on. If the lamp was still cold, then neither **switch 1** nor **switch 2** had switched it on. It must therefore be **switch 3** that switches it on.

This months' problem

A man was given two lengths of fuses which were of the same length and he was told that both would burn in two minutes but not in a linear manner. He was told to burn them together in such a way that both would burn in **1.5 minutes**. How did he do it?

Remember that they did not burn in a linear manner, that is, one might burn one third of the way in one minute and the other might burn only a quarter or three quarters in one minute.

Fuse 1

Fuse 2

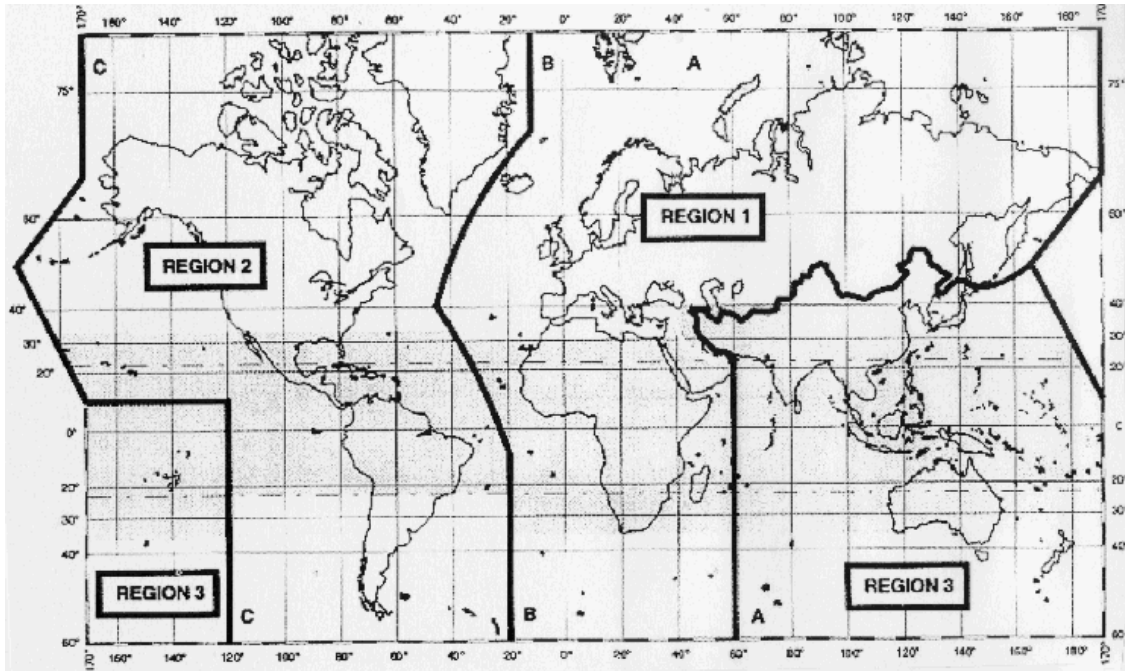
Rack your brains a little bit.

Remember Columbus and the standing egg?

Answer in the next magazine and thanks to **Dominic 9H1M**.

Lawrence
9H1AV/9H9MHR

ITU Regions Map



In radio we frequently meet with Regions and **Regions 1, 2 and 3** are frequently mentioned. We meet these on the allocation of frequencies where we find among other things that not all the regions have the same allocations for radio amateurs.

In fact, even the **IARU** which is the international organization of radio amateurs we find different branches for these regions although all are in the same **IARU** organization, that is, the **International Amateur Radio Union**.

These branches work together in the interests of the radio amateurs around the world and try to obtain more frequencies for radio amateurs as well as their protection from unauthorized stations.

One can take the last example of **IARU** work where through it and its work that all its branches do radio amateurs have acquired through the **ITU** the **136 kHz** frequency as well as the enlargement of the **7 MHz** frequency in **Region 1** and the removal of broadcasting stations between **7.1 MHz** and **7.2 MHz**.

It's good that you should know that these regions were made by the International Radio Organization, that is the **ITU** and have been made long years ago.

Here you have a map which shows how these regions are divided.

If you think that there is no threat for our frequencies you are mistaken. In fact, Radio China has just transferred its transmissions from between **7.1 MHz** and **7.2 MHz**.

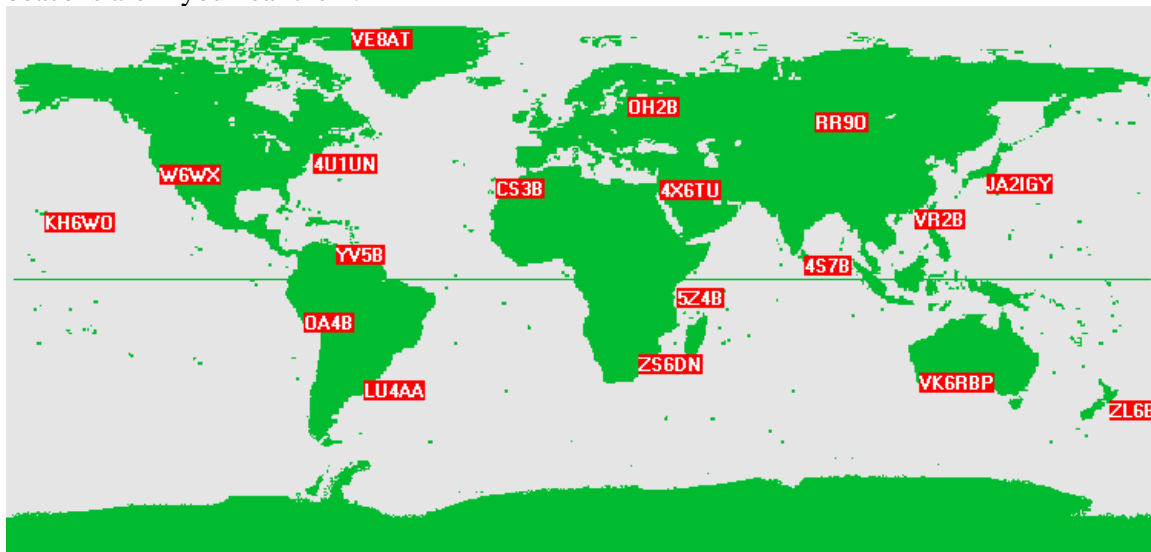
Apart from this, there are a number of pirate stations, that is, not licensed radio amateurs on a frequency of **14.0021 MHz** that meet daily around **6 p.m. UTC** or later. If you hear them please report them to **DK2OM** who is the **Region 1 IARUMS** coordinator.

There are also a number of **Portuguese** fishermen who are situated in the North of Portugal who are using **7.0004 MHz USB** every morning between **7.00** and **d-9.00 UTC**. **IARU** is encouraging radio amateurs to transmit with Morse code on them so that they will have to leave.

Lawrence
9H1AV/9H9MHR

Radio Beacons Map

A little while ago I gave you details about the international radio beacons programme as well as some details about them. Today you have a map so that you will know where these radio beacons are if you hear them.



I hope that you find this map interesting so that you will know to where there is good propagation if you hear these radio beacons.

Lawrence
9H1AV/9H9MHR

9H1M Dominic

I am still waiting for the photos and exact details from **Dominic's** group that established a new world record by making contact by means of television between **Malta** and **Corfu** at a distance of **620 kilometres**.

Lawrence
9H1AV/9H9MHR

Interesting links

Everyone knows how much sunspots affect short wave propagation. This is apart from those called solar flares that also affect propagation a lot and cause short wave transmission to vanish. Today therefore I am going to give you a few internet links that give some information about these solar flares.

<http://www.space.com/scienceastronomy/090917-sunspot-solar-cycle.html>

<http://www.space.com/scienceastronomy/090902-1859-solar-storm.html>
http://www.space.com/scienceastronomy/mystery_monday_031027.html
<http://www.space.com/php/multimedia/imagegallery/igviewer.php?imgid=145&gid=10&index=0>
http://www.msnbc.msn.com/id/32904448/ns/technology_and_science-space/

This is also an interesting link from where you could also download some calculator programmes that you can use. Go to the link, scroll down a little to the middle of the page and on the right there is a link where there is “Select Program” window, click on the arrow and choose the programme that you want to download.

<http://metrologyforum.tm.agilent.com/download.shtml>

For those who like **DX** and want to see what there is or what there is going to be the following three links are interesting.

Announced DX Operations Web page at NG3K.com
<http://www.ng3k.com/Misc/adxo.html>

DX World of Ham Radio
<http://dx-hamspirit.com/expedition-pr/>

NØHR.com Upcoming DXpedition Map
<http://www.n0hr.com/wk34/>

There are also pages from where one can download a programme to be updated with the latest **DX**. Have a look at **VE3SUN DX Monitor** on
<http://www.ve3sun.com/>

Other interesting pages are about what is called **Aurora** which unfortunately we cannot see in **Malta** and cannot experiment with its effect on radio signals propagation because **Malta** is not high or low enough near the world poles.

When an **Aurora** occurs the sky is lit up with really beautiful colours that are the result of the interaction of the solar wind and the earths’ magnetic field. The one in the North Pole is called **Aurora Borealis** and that in the South Pole is called **Aurora Australis**.

One can get an idea of the effects of **Aurora** by going to this link which shows how telegraph operators were affected in the year 1859 when there was a strong magnetic storm.
<http://www.wired.com/wiredscience/2009/09/telegraphs-ran-on-electric-air-in-crazy-magnetic-storm-150-years-ago/>

There is an interesting explanation on **Aurora** on wikipedia
http://en.wikipedia.org/wiki/Aurora_%28astronomy%29

One can go to the webpage of **Jeffrey Leer, KG0VL** <http://www.kg0vl.com/> where one can find interesting photos and a write-up on **Aurora**.

These are also links where one can find information and really beautiful photos of **Aurora** and also general information about our solar system.
<http://www.nasa.gov/>
<http://stereo.gsfc.nasa.gov/>
<http://sohowww.nascom.nasa.gov/home.html>
<http://sohowww.nascom.nasa.gov/data/CME/20001123/>

Pages about antennas or high towers for antennas which entice you but which I have no doubt that not many radio amateurs can make them.

- <http://www.environmentalgraffiti.com/featured/tallest-abandoned-structures/15004>
- http://en.wikipedia.org/wiki/Warsaw_Radio_Mast
- http://en.wikipedia.org/wiki/KVLY-TV_mast
- http://en.wikipedia.org/wiki/Burj_Dubai
- http://en.wikipedia.org/wiki/List_of_tallest_buildings_and_structures_in_the_world
- <http://www.fybush.com/site-031120.html>
- <http://www.fybush.com/featuredsite.html>
- <http://horzepa.com/blog/2008/12/12/surfin-going-vertical/>
- <http://www.nrao.edu/pr/2009/antennahigh/>

Lawrence
9H1AV/9H9MHR

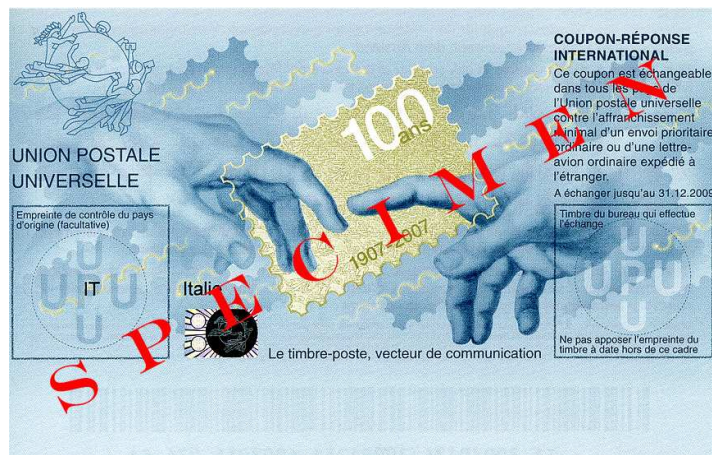
IRCs

IRCs are those coupons that radio amateurs send to each other when they want to receive a direct **QSL** card and as a courtesy send a coupon or more so that those to whom they send their card can exchange them for postal stamps.

These are changed from time to time and are going to be changed again. Therefore those who have these coupons which are known as the **Beijing 2** model should change or get rid of them before the end of the year because afterwards they will not be able to exchange them.

This is the **Beijing 2 IRC** which will no longer be used after the end of this year and if therefore you have them get rid of them quickly.

This is going to be changed by the **Nairobi** model which will remain good till the year **2013**.



This is the **Nairobi** model which will remain good till the year **2013**.

Lawrence
9H1AV/9H9MHR

New Satellites

On 23 September 4 new satellites called microsats were launched. These are small satellites that use radio amateur frequencies to send telemetry. These 4 satellites were launched together by means of an Indian rocket and all worked. These are their details.

CubeSat	Country	Frequency (MHz)	Data link (MHz)
<u>BEESAT</u>	Germany	436.000 (CW)	436.000-4800/9600 bps GMSK
<u>UWE-2</u>	Germany	n/a	437.385-1200/9600 bps AFSK/FSK
<u>ITUpSAT1</u>	Turkey	437.385 (CW)	437.325-19200 bps GFSK
<u>SwissCube</u>	Switzerland	437.505 (CW)	437.505-1200 bps FSK

Webpages from where one can get further information about these satellites.

BEESAT

<http://www.raumfahrttechnik.tu-berlin.de/menue/forschung/projekte/beesat/v-menue2/news/>

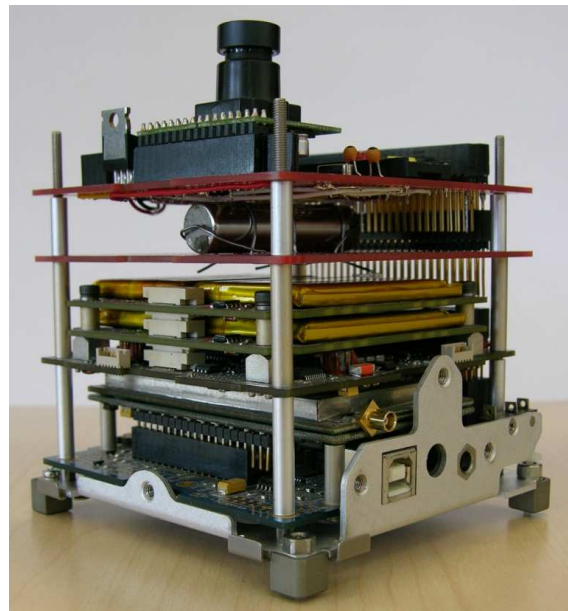
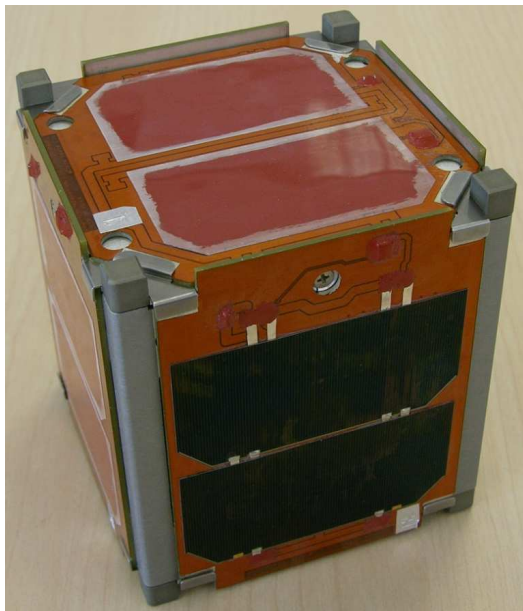
UWE-2

http://www7.informatik.uniwuerzburg.de/forschung/space_exploration/projekte/cubesat/uwe-2/

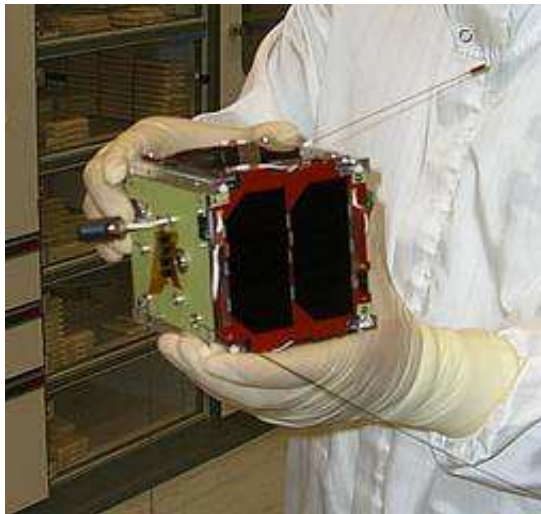
ITUpSAT1 <http://usl.itu.edu.tr/>

SwissCube <http://swisscube.epfl.ch/>

Photos



ITUpSAT1



UWE 2



Rocket ready

These photos show the size of these satellites.
The photos are taken from these satellites internet webpages which you can find further up.
Is not the University of Malta enticed to make one of them?

SumbandilaSat

Another satellite was launched a few days before on 17 September from **Baikonur** in **Kazakstan**. This satellite known as **SumbandilaSat** has a repeater on radio amateur frequencies. This was built by <http://www.sunspace.co.za/> together with the **Stellenbosch University** <http://www.sun.ac.za/index.asp> .

The uplink frequency to the satellite is **145.880 MHz** while the downlink back to earth is **435.350 MHz**. It also has a voice radio beacon on **435.300 MHz**. The mode of controlling the repeater is by means of **CTCSS** tones whose frequencies will be announced later.

Lawrence
9H1AV/9H9MHR

Jamboree on the Air



52nd On the Air
Sur les Ondes
JAMBOREE On the
13th Sur Internet

17-18 October / Octobre, 2009

I remind you that between Saturday 17 and Sunday 18 October 2009 the Scouts Jamboree is going to be held again. This is going to be the 52 Jamboree on the Air and the 13 Jamboree on the internet.

MARL intends to take part again as it usually does and therefore operators are required to operate our station.

Therefore please don't leave it too late and quickly inform **Ivan, 9H1PI** if you intend to take part with **MARL** in this activity.

Lawrence
9H1AV/9H9MHR

Condolences

Personally and on behalf of **MARL** we give our condolences to **John, 9H1XT**, his siblings and their families and unite with them in their grief for the death of their father Ġużeppi on Thursday 1 October.

Lawrence
9H1AV/9H9MHR

500 kHz

In this magazine we have several times brought you information on the **500 kHz** frequency and the experiments that radio amateurs in other countries were given permission to conduct while in Malta we are still waiting as usual.

It's good to remind you that one of the points on the agenda of the meeting of the World Telecommunications Union **ITU** that is going to be held between **23 January and 17 February 2012** is a world-wide allocation to radio amateurs of **15-il kHz** between **415 kHz** to **526.5 kHz** on a secondary basis.

We hope that **Malta** will not only support this initiative, but that we will also be given an allocation on this frequency as of now as other radio amateurs in other countries have been given so that we could also experiment on these frequencies and would not have to wait for a decision by the **ITU**.

Lawrence
9H1AV/9H9MHR

Midway Island DXpedition



Photo from the dxpedition internet webpage
<http://www.midway2009.com/index.html>

Midway Island is found on Latitude: 28° 12' N. Longitude: 177° 22' W.

This **DXpedition** had to operate between 5 and 19 October, but due to aircraft malfunctions are going to be operating between 11 and 19 October. It is important that whoever wants to work them goes to their internet link <http://www.midway2009.com/index.html>
To have the latest information as well as information about **QSL's**, logs etc.

Frequencies

These are the frequencies that the dxpedition is going to use

BAND	SSB	CW	RTTY
10	28475	28024	28080
12	24945	24894	-----
15	21295	21024	21080
17	18145	18074	18100
20	14200	14024	14080
30	-----	10104	10140
40	7078	7004	7040
80	3799	3504	-----
160	-----	1826.5	-----
6	50.115	50.115	-----

From **Malta** whoever has a directional antenna has to turn the antenna to **11.6°** for short skip (**12782 km polar** [**because they pass over the world poles**], **6902 nautical miles, 7943 US miles**) and **191.6°** for long skip (**27249 km polar, 14713 nautical miles, 16932 US miles**).

These directions are worked from my address, but the difference from any place in **Malta** and **Ghawdex** is so small that it does not make any difference because they are small.

The **Solar Flux Index** is **69** till **Thursday 18 October** and **71** till **19 October** while the **K index** is **0**. These are the best times that one can make contact from **Malta** to **Midway Island** according to the **W6ELP** propagation programme and to the mentioned conditions. The third column shows the best time.

Band	UTC time	Best time
80	15.30 - 18.30	16.30 - 1700
40	13.30 - 19.00	16.00 - 18.30
30	12.00 - 21.00	14.00 - 19.30
	03.30 - 07.30	04.30 - 06.30
20	Nearly all the time	14.00 - 20.00 and 03.30 - 10.230
17	05.00 - 07.30	05.00 - 07.30
15	06.00 - 06.30	06.00 - 06.30
12	Nothing	Nothing
10	Nothing	Nothing

Do not forget that propagation can be short skip or long skip as the case may be and therefore you should turn your antenna according to propagation.

Lawrence
9H1AV/9H9MHR

MARL Activities

Exam

The Malta Amateur Radio League will be holding the examinations at its premises in Notabile Road, Attard, on Saturday 21st November.

The exam consists of two parts: Written (from 9 a.m. to 11:15 p.m.) and (Practical) Morse Code (from 12 p.m. to 1 p.m.) Please be aware that if candidates finish from their written exam earlier than allocated, the Morse Exam may commence before the time announced so please try to be a bit earlier.

Applications should be submitted by Sunday 8th (Bring along a colour photocopy of your ID card from both sides and on your application write down your mobile number and email address). Written exams cost €35 whilst Morse €7.

For more information call the secretary on 79437808, or email to: Exam Info ivan.privitera at gmail.com; dominic at esclmalta.com or in person at the club's premises on Tuesdays and Thursdays from 6 to 8 p.m. and on Sundays from 10 a.m. to noon.

New Course

We remind everyone that a new course leading to the examinations to acquire the radio amateur license is going to start at the MARL Centre on Sunday 25 October and will be held on every Sunday.

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 are going to have activities for the next three months 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. Therefore make sure that if you are not already in the group to become members so that you will not lose any activity that we will be organizing. Send an e-mail to Ivan, 9HIPI ivan.privitera at gmail.com to become members in the group.

Lawrence
9H1AV/9H9MHR