



MARL



Magazine by MARL

For Maltese and Gozitan

Radio Amateurs

Number 16

July 2007

Smoking is prohibited



at the centre

From the Editor

Friends,

I welcome you to another issue of this magazine for July 2007, which is the 16th edition in this series.

Recently we had two operations out of our premises. One was the Spring Show at San Anton Gardens, and the other was when an umber of radio amateurs organised an operation near the Red Tower.

We intend to organise other similar activities, as well as organising other activities at the Centre such as BBQs.

These should all be an occasion for our families to meet and at the same time together enjoy ourselves in the fresher evening air after the end of the hot summer days.

George, who now has a personal Maltese Saint helping him, is going to take care of the food as usual.

In fact, we are going to organize a BBQ on Saturday 14 July at the Centre from 8 pm onwards.

You will find the details on the last page of this magazine and book early so that you will not be disappointed.

Another occasion that MARL is going to take part in is the Scouts 100 anniversary commemoration that is also going to be commemorated in Malta.

Two days of operation will be held in July/August together with the scouts on the Floriana Granaries.

MARL operators will be operating stations from a camp that is going to be provided by the scouts.

The two days happen to be on a Tuesday and Wednesday and therefore there is a need for more operators because these are working days.

However, since many people will be working half-days, we hope that there would be some who would come and spend some time operating our stations.

We therefore appeal to anyone who can afford some time for this occasion to inform the Secretary as soon as possible and give details as to when and at what time s/he can come.

Regarding the television repeater, it is planned that it will be operational again during August.

The reason is that both 9H1M and 9H1ES had to be abroad several times while 9H1LO was very busy with his new job and could therefore not dedicate as much time to it as they wished.

Therefore, the plans that they had to have the repeater operational during June had been upset.

We are sorry but we could not do otherwise, but we are certain that when it starts operating it will be much better than it previously was.

Lawrence
9H1AV / 9H9MHR

Exams

MARL is going to hold the necessary examinations to obtain the radio amateur licence.

These examinations will be held at the MARL Centre, Notabile Road, Attard, on Saturday, 7 July 2007.

The examination consists of two written papers (from 10.00 to 12.00) and Morse Code (practical) (from 13.00 p.m. to 15.00)

Applications are to be submitted by Thursday 5 July, 2007.

For more information phone the Secretary on 79 43 78 08, or e-mail secretary@9h1mrl.cjb.net

You can also go personally to the MARL Centre on Tuesdays and Thursdays from 18.00 p.m. to 20.00 p.m., as well as on Sundays from 1-10.00 to 12.00.

The next examinations will be held in December 2007.

Good luck to those sitting for the examinations and we hope to hear them on the air soon.

NOTA

Since Dominic, 9H1M had to be abroad several times as well as having been very busy with lectures for those sitting for the examinations, the next episode of his contribution on electricity will be in the next issue.

Nadur Tower

As a number of radio amateurs know, MARL had rented, years ago, the Nadur Tower which was used by the members for VHF and microwave operations.

In view of the continuous vandalism by certain unknown individuals that meant unnecessary and continuous expenses for MARL to repair, and other reasons, we had to terminate the lease.

However, a number of our members continued to go near the Tower just the

same and work on VHF and microwave especially on TV.

This is because the Tower and the neighbourhood are one of the highest places in Malta which is required for these types of communications and frequencies.

It now appears that problems are going to be created because not only will interference be created, but if they continue with their plans, there is going to be an environmental disaster.

This is because a microwave link tower is going to be built for commercial purposes near the Tower.

While radio amateurs never erected towers and never created any environmental problems, and that means both as regards the natural as well as the radio environment, the erection of a communications tower is going to create an environmental disaster near the Nadur Tower which is a historical tower.

This is not to mention the dangers created by high power microwave links to persons living in their vicinity as well as to ramblers who like to go for a walk in the country.

Therefore, as soon as MARL came to know about it, the Secretary filed a protest with MEPA by an e-mail that has been acknowledged by means of an automatically generated e-mail.

The protest was made by e-mail because as soon as MARL got to know about it it was on Sunday and it was the last day in which objections could be filed against the proposed development.

A copy of this e-mail was also sent to Din l-Art Helwa organisation, the Ramblers Association and Flimkien Għal Ambjent Aħjar so that they will also know about this threat to our national historic heritage and the threat it poses to persons nearby.

This is the e-mail sent by our Secretary to MEPA.

Representation Description :

We had been renting the premises from a good number of years and then handed over to Din L-art Helwa so it would be appreciated by the general public for its historical value.

We believe that further development would be to the detriment to the historical site itself.

Apart from this, the site being one of the most elevated areas of the Maltese islands would provoke a huge array of interference should something go wrong in the telemetry system.

The area also boasts from a low level of light pollution and is ideally for astronomical and EME exercises.

We trust you will evaluate our proposals,

Thanks in advance,

Ivan Privitera,
Malta Amateur Radio League Secretary,

This is the automatic reply after which we should receive a reply by post

- Original Message -----

From: <objakn@mepa.org.mt>

To: <iprivitera@global.net.mt>

Sent: Sunday, June 17, 2007 10:46 PM

Subject: Representation to Case Number : PA02533/07

This is a system-generated reply.

We thank you for your interest in our online services. You will be receiving a formal acknowledgement from us by post within a few days.

Should you not receive any correspondence within 7 working days kindly contact us immediately.

Representation to Case Number:
PA02533/07

Name : Malta Amateur Radio League

Address : P.O. BOX 575 VALLETTA

Telephone : 79437808

Fax :

Mobile :

E-mail : iprivitera@global.net.mt

A copy of the Secretary's e-mail was sent to several organisations among them Din l-Art Helwa, Ramblers Association, Astronomical Society of Malta, and Gaia.

We hope that our objection does not fall on deaf ears, as usually happens.

We are going to keep you informed about any developments on this issue.

Lawrence
9H1AV / 9H9MHR

Petitions Board

After having written about the Legal Notices and the Petitions Board, Legal Notice 144 was published in the Government Gazette on 29 May 2007 which made certain amendments.

The scope of these amendments is that the procedures before the Local Tribunal are stopped following the presentation of a petition to the Petitions Board. In fact, this is only a two-article Legal Notice.

This can be considered as a procedural regulation about what should be done by the Local Tribunal when a petition is presented to the Petitions Board.

This is because technically, although a petition would have been presented, there was nothing to stop the Local Tribunal from continuing with the procedures and decide the case presented before it.

It stands to reason that the Local Tribunal ought to do so because if the Board for Petitions decides to grant the petition it would simply have wasted the Tribunal and everybody's time apart from other legal implications.

In fact, there were cases where the Local Council continued to send notices just the same notwithstanding that the Board for Petitions had informed the petitioner to ignore any notice or summons to appear before the Local Tribunal.

This Legal Notice has now cleared up things and it is clear that the procedures before the Local Tribunal will have to stop.

Therefore, whoever had presented a petition to the Board for Petitions should ignore any summons sent to him by the Local Council or Local Tribunal.

This is because if you attend at the Local Tribunal it could be interpreted that you are renouncing to the petition that you had made.

This is a legal procedure that is used by anyone who is contesting the competence of any Court, but in this case what is being contested is simply the validity of the summons.

Therefore, if you appear before the Local Tribunal it would appear that you are renouncing to the petition and the invalidity of the summons.

It should also be said that whoever files a petition was never obliged to inform the Local Council or Local Tribunal and it was the prerogative of the Board for Petitions whether to inform them or not that a petition had been filed.

However, although the procedures are stopped, the prescription period also stops so that if the petition is not granted, the procedures may be continued before the Local Tribunal.

As is stated in the Legal Notice, the old summons the old summons will not be valid and a new summons will have to be issued.

Article 2 states that:

2. Regulation 6 of the principal regulations shall be renumbered as subregulation (1) thereof and immediately after subregulation (1) as renumbered there shall be inserted the following new subregulation:-

“(2) (a) Following the presentation of a petition in the Registry of the Board, the

Tribunal proceedings referring to such contravention shall be suspended for all effects and purposes of law, until such date when the petition is decided upon.

(b) The prescriptive period in the case of contraventions shall also be suspended as from the date when the petition is filed and until that same petition is decided upon.

(c) In the event that the petition is refused, a new summons shall be issued.”.

I hope that you will find this information useful if you ever need it.

**Lawrence
9H1AV / 9H9MHR**

2 metre sporadic E

During June, there were a number of occasions that we had what is known as sporadic E.

During these occasions a number of Maltese radio amateurs succeeded in contacting other radio amateurs from a number of countries.

Among foreign stations, there were a number of European countries, including England, France, Spain, Croatia, Czech Republic, Germany, Greece, Lampedusa, Corsica, Sardegna and also Israel from the Near East.

These were instances of very good propagation, so much so that there were some who worked with only a ground plane.

All those who have never worked on sporadic E propagation should try because there is no doubt that they will enjoy themselves.

For the new ones, the calling frequency is 144.3 MHz.

When a station is calling on SSB and also on CW, the others will be listening to see whether any foreign stations will answer.

As soon as foreign stations are heard, the locals will normally spread up and down the band from this frequency to be able to work the foreign stations.

Solar Observations

As all radio amateurs know, the number of sunspots affects propagation of radio waves a lot, especially short waves.

Apart from sunspots that affect propagation on a long-term basis, there are also a number of other phenomena that also affect propagation.

For these and other reasons, a number of countries have special stations to count sunspot numbers and other phenomena and in many cases put the information immediately or after a few minutes on their internet webpages.

Apart from the number of sunspots, they also give other details and keep an archive of all the information that they had gathered.

They also give warnings about the occurrence of a solar flare that normally sends a lot of radiation on a wide spectrum that not only causes harm to humans if they are not protected, but also cause great upheavals in the propagation of radio waves.

Solar radiation causes propagation upheaval and other effects on earth, among which is variation in the earth's magnetic field.

It also causes damage to satellite electronic apparatus that can also lead to their loss apart from being a serious threat to astronauts who do not have the protection of the earth's atmosphere.

For the protection of astronauts there are special sections in the space station that are protected from radiation where the astronauts may shelter until the end of the radiation storm.

Persons who fly at high altitudes would be taking a higher than normal radiation dose during a sun radiation storm.

For this reason, it is not recommended that one go on high altitude flights during a strong radiation storm, especially **PREGNANT WOMEN**.

Ultraviolet radiation of wavelengths from 100 and 1000 angstroms causes ionisation of the F region that refracts radio signals.

Soft X-ray radiation of wavelengths from 10 to 100 angstroms causes ionisation of the E region.

While hard X-ray radiation of wavelengths from 1 to 10 angstroms causes ionisation of the D region.

Apart from this, solar matter, among which are charged electrons and protons, are blown off the sun all the time.

This is called the solar wind that is emitted by the sun at a velocity of about 400 kilometres per second, which velocity varies according to solar activity.

The solar wind affects and is affected by the earth's magnetic field.

The ultraviolet and X-ray radiation arrives at the earth from the sun a little later than 8 minutes, increases the D layer ionisation and causes loss of short wave signals.

If you remember from the propagation lessons that you did prior to your examination, the strong D layer ionisation during the day because it is exposed to the sun is the cause that medium wave stations suffer a strong decrease in strength and distance during the day.

On the other hand, the same stations will be stronger and be heard from much longer distances during the night because the D layer will be in the dark from the earth's shadow.

Because of this and because the same frequencies are used in many different places at the same time, medium wave

stations during the night have to reduce transmitter power so as not to interfere with each other.

The sun cosmic radiation, which is made up of **high-energy protons and alpha particles**, arrives at the earth from 15 minutes up to a few hours later.

This also causes increased ionisation of the D region and leads signals that pass through the earth poles to suffer a greater loss in their strength.

Sun magnetic storm particles arrive at the earth between 20 to 40 hours later, and are made up of low-energy protons and electrons.

These cause a number of effects on earth. They cause magnetic storms, auroras, E sporadic, and increase the D region ionisation with the effects already mentioned.

For these and other reasons, apart from these stations, there is also a satellite observing the sun. This is known as **SOHO**.

Other satellites are being sent to observe the sun with tri-dimensional methods to acquire more useful information.

The published sunspot numbers are not those that one would actually find if he had to count them, but there is a system how they are counted.

Those who want more information about how they are calculated and other details can go on this link and find useful information.

<http://www.ngdc.noaa.gov/stp/IONO/sunspot.html>

Whoever wants to know the projected weekly indices can go to

<http://www.sec.noaa.gov/weekly/index.html>

More useful information can be found on the ARRL internet webpages that you have the links to some of them below.

Propagation explanations
<http://www.arrl.org/tis/info/propagation.html>

Explanation on the numbers used
<http://www.arrl.org/tis/info/k9la-prop.html>

Propagation bulletins archives
<http://www.arrl.org/wlaw/prop/>

Don't forget that in another issue I had referred to solar radiation on 2800 MHz or 10.7 cm that is used to measure sun radiation because it can be considered as the actual situation because it arrives at the earth after a few minutes.

This measure as well as the K index are transmitted by WWW at each hour + 18 minutes.

The K index maximum is 9. A measurement from 3 upwards means a substantial decrease in propagation.

Don't forget that there are a number of propagation programmes, that is so that one can predict whether there is going to be good propagation between two places and what would be the best frequency, that to work properly you have to feed them the information acquired from the mentioned stations.

But while these programmes are good for planning, the best method to know if there is good propagation is by **TRANSMITTING** and see if someone answers you.

Many only listen, and if no one is transmitting no one will know that there is good propagation.

This happens quite often on 28 MHz where many beacons will be heard coming in at good strength and no amateur signals are heard.

Go on the mentioned internet webpages a see how much useful information there is to understand radio signals propagation.

Lawrence
9H1AV / 9H9MHR

500kHz

We cannot say much about this frequency because we have to wait a lot longer to be given an allocation on it.

However, it's good to see what is happening outside Malta, especially in the United States of America where a number of radio amateurs were the first to be granted permission to experiment on it.

We shall see a report by Fritz Raab, W1FR who is the coordinator of the stations working on 500 kHz. This report is for 1 March to end of May 2007.

Presently there are 16 stations who are on the air, one is fixing his antenna, one has stopped, two went to live in another place, and three are working on their transmitter.

It should be stated that all stations use the callsign WD2XSH and operations started in September last year.

During the last three months, these stations added 2413 hours of operation and increased the total number of hours to 7042.

83 QSOs were completed and there were 3650 reports of someone having received their signals.

Operations were reduced because of increased QRM. However, a number of stations were received from distances of more than 1,000 miles.

The greatest QSO distance is 884 miles which was between New Hampshire and Tennessee.

Communications were also held on ground wave that showed that this frequency is good for communications that do not rely on ionospheric propagation.

From the European side, the British have a much lower transmitter power than that of the Americans, but they are experimenting on this frequency just the same.

Three German stations have also been given permission to operate on this frequency.

We know that in Malta there are some who are interested in operating on this frequency, but we will see about this later on.

I suggest that you go to <http://www.500khz.com> and I am sure that you will find interesting information.

Lawrence
9H1AV / 9H9MHR

Measurements

Today I am going to give you the measurements of an antenna known as a Cubical Quad. This has the advantage that it is in the form of a square or diamond and has DC current continuity.

This offers advantages because it does not allow the build-up of static voltages and protects the radio apparatus from these voltages.

Whoever has a big antenna for the low frequencies, such as 80 and 160 metres knows that when a storm is approaching he will hear and see sparks jumping between the coaxial cable and earth and between the inner and outer connections of the coaxial plug.

When there are storms and lightning even antennas for higher frequencies start to spark.

For this and also other reasons, you should find that this antenna is quieter than other antennas when you are listening to your radio.

Apart from this, this has greater gain when compared to a yagi with the same number of elements, which does not mean that the

two antennas will have the same boom length.

Another advantage that this antenna has is that its width is half that of a yagi for the same frequency, although it has the disadvantage that it is tri-dimensional while the yagi is two-dimensional only

This antenna has a square or diamond form and each side is a quarter wavelength long.

Thus, the length of wire used in the antenna in each element is around one wavelength on the frequency for which it is cut.

There is another variation of this antenna that has each side of double the length, that is, a half-wave, and therefore the length of each of its elements is about two wavelengths.

This has more gain than the other antennas because it is bigger, but strictly speaking it cannot be called a loop because it has an isolator in the centre of each element.

Because of the size of this quad with half-wave sides, it is normally made for VHF and UHF frequencies.

The wire elements are held in place by fibreglass tubes, or bamboo poles, while there were also commercial versions which used aluminium tubes that had isolators where the wires were tied.

An advantage of fibreglass tubes is that they last a lot longer than bamboo and are lighter, although they cost more.

If you want to you can make such an antenna for the lower frequencies, but without any doubt you will have a very big antenna.

However, you can also make it with the elements horizontal and thus concentrate transmission directly up.

In this case, you will need four pipes or poles, one in each corner, from where you can tie the antenna wires.

In this way you can experiment on the low frequencies such as 7 MHz and 3.5 MHz with that system known as NVIS where because the radio signals are transmitted directly up there will not be that zone where signals will not be heard.

Later on when we are given the 5 MHz-frequency you can also make one for this frequency

Thus you will be taking advantage from the gain that this antenna has to have better signals on short distances of hundreds of miles.

For horizontal polarisation the wire is cut in the middle at the lower end, while for vertical polarisation it is cut in the middle of a vertical wire and is connected to the coax feeder the coaxial is connected

In case the form is that of a diamond, for horizontal polarisation the coax feeder is

A Cubical Quad with each side a quarter wavelength is similar to this box. Each element will be in this form. In the middle there will be the boom and from it there will be tubes to each corner to tie the wire to them. The element connected to the transmitter is cut in the middle and the coaxial cable connected as it is connected to a dipole.

connected to the lower corner and for vertical polarisation to a side corner.

Sometimes the elements are made the same size which is a little smaller than normal, make an isolator in the centre of the bottom element, and add two wires that are spaced around 3 to 4 inches.

These wires are connected together and their length adjusted and thus you can adjust the antenna exactly on frequency, as well as for best forward transmission or to reduce back signals as much as possible, always according to what you want.

Like a Yagi antenna, the Quad can be made with as many elements as you want,

but because it is tridimensional it is affected more by the wind.

Here I want to bring to your attention that on VHF frequencies and above, and also on 1296 MHz and higher, normally the form will be round which theoretically has more gain.

However, on these frequencies everything has to be exact and you will do well to refer to specialised books if you want to make antennas for these frequencies.

Here I am going to give you the measurements from 1.8 MHz upwards, so that whoever has space for this antenna, although perhaps it concentrates transmission upwards will not have problems with measurements.

Measurements with one quarter wave sides.

Measurements are in feet and inches while those from 50 MHz upwards are in inches.

In many cases, the measurements have been rounded up to the nearest inch.

In each case, it is better to tune the antenna when it is in its place especially on higher frequencies and VHF, although on lower frequencies a few inches either way will not make a difference.

- The first column is the frequency**
- The second column is the length of the wire that is connected to the coaxial cable.**
- The third column is the length of the reflector wire.**
- The fourth column is the length of the director wire.**
- The fifth column is the space between elements of .14 wavelength.**

1	2	3	4	5
FMHz	DE	Ref	Dir	Space
1.825	550'8"	564'4"	534'3"	75'7"
1.85	543'3"	556'9"	527'	74'7"
1.9	529'	542'1"	513'2"	72'7"
1.95	515'4"	528'2"	500'	70'8"

3.55	283'1"	290'1"	274'7"	38'10"
3.65	275'4"	282'2"	2672"	37'9"
3.75	268'	274'8"	260'	36'9"

5.3	189'7"	194'4"	184'	26'
5.4	186'1"	190'9"	180'6"	25'6"

7.05	142'7"	146'1"	138'3"	19'7"
7.15	140'7"	144'	136'4"	19'3"
7.25	138'7"	140'	134'6"	19'

10.125	99'3"	101'8"	96'3"	13'8"
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14.05	71'6"	73'4"	69'2"	9'10"
14.15	71'	72'9"	68'11"	9'9"
14.25	70'6"	72'3"	68'5"	9'8"

18.1	55'6"	56'11"	53'10"	7'7"
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21.05	47'9"	48'11"	46'4"	6'6"
21.15	47'6"	48'8"	46'	6'6"
21.25	47'3"	48'5"	45'10"	6'6"
21.35	47'	48'3"	45'8"	6'6"

24.92	40'4"	41'4"	39'1"	15'6"
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28.05	35'10"	36.8"	34'9"	4'11"
28.15	35'8"	36'7"	34'7"	4'11"
28.25	35'6"	36'5"	34'6"	4'11"
28.35	35'5"	36'4"	34'4"	4'11"
28.45	35'4"	35'3"	34'3"	4'11"
28.55	35'2"	36'1"	34'2"	4'11"
28.65	35'1"	35'11"	34'	4'11"
28.75	34'11"	35'11"	33'11"	4'9"
28.85	34'10"	35'8"	33'9"	4'9"
28.95	34'8"	35'7"	33'8"	4'9"
29.05	34'7"	35'5"	33'7"	4'9"
29.15	34'5"	35'4"	33'5"	4'9"
29.25	34'4"	35'3"	33'4"	4'9"
29.35	33'3"	35'1"	33'3"	4'8"
29.45	34'1"	34'11"	33'1"	4'8"
29.55	34'	34'10"	33'	4'8"
29.65	33'10"	34'9"	32'10"	4'8"
29.75	33'9"	34'7"	32'8"	4'8"
29.85	33'9"	34'6"	32'8"	4'8"

If you want you can increase space to .25 wavelength because on this 10-metre frequency the boom length will be only 5 metres for an antenna with 3 elements. In this case, the space between elements if we take a frequency of 29 MHz will be 8'6"

50.1	20'	20'7"	19'5"	33"
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50.3 19'11" 20'5" 19'4" 33"
 50.5 19'11" 20'4" 19'3" 33"
 50.7 19'10" 20'4" 19'3" 33"
 50.9 19'9" 20'3" 19'2" 33"
 51.1 19'8" 20'2" 19'1" 33"
 51.3 19'7" 20'1" 19' 33"
 51.5 19'6" 20' 18'11" 33"
 51.7 19'5" 19'11" 18'10" 33"
 51.9 19'4" 19'10" 18'9" 33"

If you want you can increase spacing to .25 wavelength because on this frequency of 6 metres the boom will be only 3 metres for an antenna with 3 elements. In this case, the spacing between elements if we take a frequency of 51 MHz will be 4'10"

70.1 14'4" 14'8" 13'11" 24"
 70.4 14'3" 14'8" 13'10" 24"

On the following frequency of 2 metres note that the difference between 144.2 and 145.2 is only half an inch.

This means that on this frequency the differences are small and you must tune it in place.

Apart from this, I suggest that because of its small size to increase the spacing between elements to .25 wavelength.

The spacing of .25 wavelength on this frequency is 20".

144.2 6'11.5" 7'1.7" 6'9" 11.5"
 145.2 6'11" 7'1.1" 6'8.5" 11.5"

Another Marconi Antenna

Last time I gave you a drawing of an antenna that Marconi had made to continue with his experiments after a gale had blown down his original antennas.

Today I am going to give you another antenna that was made to be used as an antenna for experiments which Marconi continued to do.

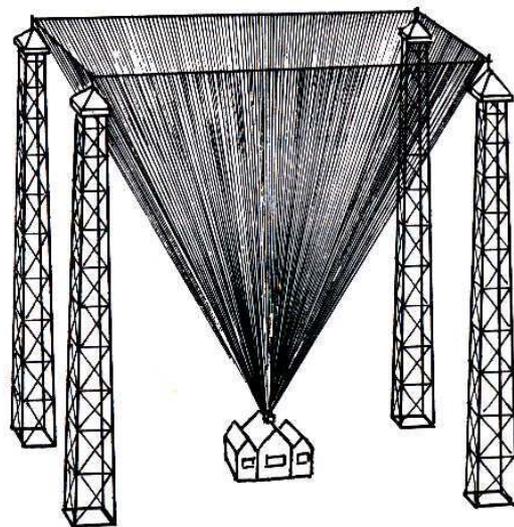
This was made up of four wooden towers 215 feet high that held the antenna wires.

This antenna is found hereunder and you can see that it had four sides while the other one had one side.

This type of antenna was stronger and was erected in 1902 at Poldhu, Glace Bay, and Cape Cod after gales had blown down the original antennas in 1901.

The towers also had stays which are not shown in the drawing.

Such an antenna or perhaps bigger is the dream of all those who work on 160 metres and are thinking of working on 500 kHz and 136 kHz when they are allocated to us.



Marconi picture

Lawrence 9H1AV / 9H9MHR

Dxpedition

For those who like dxpeditions and like to work rare places, there is a planned dxpedition for February 2008.

This dxpedition is going to Ducie Island where the prefix is VP6.

The operators are planning that they will be there at daybreak on 9 February and will be there for about 19 days.

They may also go to Hendersopn Island which is also VP6 and therefore is not a separate dxcc entity.

They are planning to leave Mangareva Island, pass through Gambier Islands, and continue to French Polynesia.

They will stay for a few hours on Pitcairn Island and afterwards leave for Ducie Island, a voyage of about 36 hours.

They will use 7 Elecraft K3 transceivers, 6 or 7 ACOM 1000/1010 linears, and ACOM 2000A for 160 metres.

They are going to have 2 phased vertical antennas for 160 metres, one beaming to Europe and the other to the USA.

It is planned that they will have 2 4 squares on 80 metres, one on CW the other on SSB. They will also have 4 squares on 30 and 40 metres, and phased vertical dipoles on 20 to 10 metres.

Further information on http://ducie2008.dl1mgb.com/component?option=com_frontpage/Itemid,1/

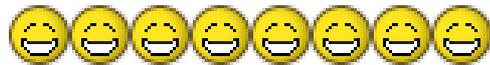
Lawrence
9H1AV / 9H9MHR

Blank space due to differences between Maltese and English text.

MARL ACTIVITIES

BBQ

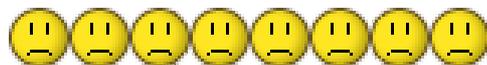
We are going to hold a BBQ at the MARL Club on Saturday 14 July from 8.00 p.m. onwards.



Price is Lm4.00 for adults and Lm2 for children. Food is meat, fish together with wine or a soft drink.



Booking is open and payment is to be made when booking. Whoever wants to come should contact George or another committee member up to Thursday 12 July 2006 so as not to be disappointed.



Come and bring your wife, family and friends and enjoy yourselves.