



MARL



Fuljett maħruġ mill-MARL

Għad-Dilettanti tar-Radju

Maltin u Għawdxin

Numru 2

Mejju 2005

Smoking is prohibited



at the Centre

From the Editor

Friends,
Since the first edition of this publication, we have continued our work for the benefit of Maltese and Gozitan radio amateurs.

We would like to inform you that this magazine is being published on the internet on the MARL website in Maltese and English.

For those who still do not know, our website is <http://www.marl.cjb.net>

If you find any difficulty in reading the Maltese text, you will also find on this website the necessary software for the Maltese keyboard and fonts.

To make the internet webpage more interesting, we invite all Maltese radio amateurs who have their own webpage to give us its address so that we will make a link to it from our webpage.

Those who want to receive this publication by e-mail please forward us your e-mail and you will receive it as soon as it is published.

Apart from this, we wish to publish the addresses of Maltese and Gozitan radio amateurs. We wish to do this both in this publication as well as on the internet.

Due to the Data Protection Act, we do not only want your details, but also your authorisation to publish them.

Whoever, therefore, wants his name and details to be published should come to the Centre and give us all details till the end of June 2005 as well as sign a declaration that he/she is authorising MARL to publish these details.

Before closing, I would like to remind you that MARL organises courses leading to the acquisition of the necessary license to communicate by radio.

Further down you will find the aims of MARL as well as details that should be sent for membership.

Don't forget that it is not only those who are interested in communicating by radio, but listeners can also be MARL members.

The MALTA AMATEUR RADIO LEAGUE is an organisation of radio amateurs and general electronics.

Radio communications can only be made if you have a license issued by the Office of Wireless Telegraphy.

To acquire this license you have to sit for an examination. MARL gives free lessons for this purpose. Membership is LM10 and LM5 for students. Whoever wishes to become a member should send his details to,

Malta Amateur Radio League, PO Box 575 Valletta, or come to the MARL Centre, Industrial Estate, Notabile Road, H'Attard.

Name.....
Surname.....
Address.....
Telephone number.....
e-mail.....

MARL Centre opens:
Tuesday 6.00 p.m. - 8.00 p.m
Thursday 6.00 p.m. - 8.00 p.m
Sunday 10.00 a.m. - 12.00 a.m

Teaching with decibels

I suppose that everyone hears and probably uses phrases such as :

Signal to noise ratio of 15 db's;
An antenna gain of 20 db's;
Filter attenuation of 70 db's.

But are we really sure what we mean by these expressions?

One other use of the decibel term appears in our Amateur Radio transmitting license conditions, where the maximum power to an aerial on any band is quoted in terms of db relative to 1 watt. This db relation to 1 watt is usually written as dBW.

The way the term is used, the decibel (**db**) sounds as though it is a unit of some sort, BUT IT ISN'T A UNIT OF ANY KIND – instead it is always a logarithmically expressed ratio of two power levels.

Let us assume that we have an audio amplifier¹ that produces 10 watts output for a signal input of 1 milliwatt. The ratio between the output power and the input power is obviously:

$$\frac{P_{out}}{P_{in}} = \frac{10W}{1mw} = \frac{10}{10^{-3}} = 10^4$$

Meaning that the output power is **10,000** times greater than the input power. Now looking at the above mathematics, why do logarithms have to be involved then?

The reason that logarithms are involved is to simplify the calculation of overall gain of a system comprising several amplifying stages. It would mean multiplying the various stage gains together to get the answer. Using a logarithmic system means that we only have to add numbers together rather than multiplying them.

You may ask where does the decibel come from? The answer is straightforward as the

¹ An audio amplifier is an apparatus into which we feed a small signal to increase it to the desired level on audible frequencies.

unit is based on degrees of loudness as assessed by the human ear. In general, the loudness of a sound appears to be **twice** as loud only when the level of sound is increased by as much as **10** times. This means that for a sound to appear to be four times as loud, the level of the sound has to be increased by **100** times. In fact, the ear of young readers can hear sounds over an intensity range of 1 million million, that is a dynamic range of **10¹²**.

Mathematical, the compression of sound levels by ear indicates that our ears have a LOGARITHMIC function which is the reason for using the decibel, which is also logarithmic.

The equation connecting power levels with decibels is

$$NdB = 10 \log_{10} \left(\frac{P_2}{P_1} \right)$$

Where NdB is the number of dB and the term “**log₁₀**” is the logarithm to the base 10. The term **P₁** is the lower power level and **P₂** is the higher power level.

The above method works for power gain, but what about power loss and how do we deal with it?

Power loss occurs in items such as an attenuator², so let's start with our original formula.

$$NdB = 10 \log_{10} \left(\frac{P_2}{P_1} \right)$$

Again NdB is the number of dB and “**P₁**” is the lower (output) power level and “**P₂**” is the higher (or input) power level.

$$NdB = 10 \times \log \left(\frac{0.2}{12} \right) = 10 \log 0.0167$$

$$= 10 \times (-1.778) = 17.78 \text{ dB}$$

² An attenuator is any device where there is a loss of power, i.e. the output power is less than the input power.

Let's now consider the problem the other way round. How do we find the power ratio when given a dB gain or loss?

$$NdB = 10 \log \frac{P_1}{P_2}$$

Now divide both sides of the equation by 10.

$$\frac{N}{10} = \log \frac{P_1}{P_2}$$

Let $\frac{P_1}{P_2} = X$ power ratio

Take antilog of both sides

Antilog (0.1) = X

Now let's have an example.

If an amplifier is said to have a gain of 45dB, what is the actual power ratio between input and output?

Antilog (0.1 x 45) = X

Antilog (4.5) = 31622.8

So when an amplifier has a power gain of 45 dB, the power output of the amplifier is 31,622.8 times the power at it's input.

Going back to the very first example using the input and output power levels of an amplifier, audio or rf makes no difference, we will put the figures into the decibel formula.

$$NdB = 10 \times \log \left(\frac{10W}{1 \text{ mw}} \right)$$

$$= 10 \log \frac{10}{10^{-3}}$$

$$= 10 \log (10^1 + 3) = 10 \log (10^4)$$

$$= 10 \times 4 = 40 \text{ dB}$$

Our amplifier has a power gain of 10,000 times or 40 dB.

Consider the effect of increasing the power of four different transmitters with power levels of

- (a) 0.1 W (b) 1W
- (c) 10W (d) 1000W

The change in each case is by exactly the same amount – 10 W – but obviously the increase of 10W to the 0.1W transmitter is very different from the increase of 10W to the 100W transmitter. Expressed in dB the difference should be much clearer.

Example (a) The 0.1W transmitter increases to 10.1W

$$NdB = 10 \log \left(\frac{10.1}{.1} \right) = 10 \log 101$$

$$= 10 \times 2.004 = 20.04 \text{ dB}$$

and where the 1W Transmitter increases to 11W.

$$NdB = 10 \log \left(\frac{11}{10} \right) = 10 \log (1.1)$$

$$= 10 \times 1.04 = 10.4 \text{ dB}$$

Now increasing the 10W transmitter to 20 watts output

$$NdB = 10 \log \left(\frac{20}{10} \right) = 10 \log 2$$

$$= 10 \times 0.301 = 3.01 \text{ dB}$$

And finally, changing the 100W Transmitter to 110W.

$$NdB = 10 \log \left(\frac{110}{100} \right) = 10 \log (1.1)$$

$$= 10 \times 0.041 = 0.41 \text{ dB}$$

Let's look at some of those changes. The output changes in dB are:

- (a) **20.04 dB**
- (b) **10.4 dB**
- (c) **3.01 dB**
- (d) **0.41 dB**

Hopefully, these examples demonstrate the value of using dB as an indication of power changes.

Karmenu 9H1AQ.

Information

We are interested in being granted permission to use frequencies between 135.7 khz to 137.8 Khz as had been granted to radio amateurs in other countries. Our request has so far been refused.

We hope that we will not be the last radio amateurs in the world to be given these frequencies, as unfortunately appears to have happened many times. We will continue to do our best to be given these frequencies.

Although we still do not have permission, here are a few webpages where you can find information on antennae and equipment for these frequencies. Certain pages take some time to download, especially that of ON7YD, but they are a mine of information. These are,

www.rsgb-hfc.org.uk
www.qsl.net/on7yd/136ant.htm
www.g0mrf.freemove.co.uk
web.ukonline.co.uk/g3ldo/loop.htm
www.alan.melia.btinternet.co.uk
www.picks.force9.co.uk
www.computerpo.com/~lyle/lftx.htm
www.alg.demon.co.uk/radio/136/home.htm
www.qsl.net/k3pgp/Notebook/Wd5cvg/CIassetx/classetx.htm
www.qsl.net/ik2pii/lf/tx200w.htm
www3.sympatico.ca/mitch.powell/lftx.htm
www.qsl.net/df3lp/projects/lftx/index.html

Radio amateurs in these countries can use these frequencies.

Andorra C3, Portugal CT, Germany D, Spain EA, Irish Republic EI, Estonia ES,

France F, England G, Isle of Man GD, Northern Ireland GI, Jersey GJ, Scotland GM, Guernsey GU, Wales GW, Switzerland HB, Italy I, Alaska KL, Argentina LU, Luxemburg LX, Lithuania LY, Austria OE, Finland OH, Aaland Island OH0, Czech Republic OK, Slovakia OM, Belgium ON, Denmark OZ, Netherlands PA, Slovenia S5, Svezja SM, Polonja SP, Costa Rica TI, Russia UA, Canada VE, Amerika W, K (specjal permit), Romania YO, Yugoslavia YU, New Zealand ZL, Cyprus 5B4, (Cuba, Norway and Brazil are awaiting permit).

500 khz

According to an October 2004 report on the Wireless Institute of Australia website, this institute was going to try to obtain permission for radio amateurs to use frequencies around 500 khz. This frequency was previously used by ships in distress, but is now no longer used as it was superseded by the GMDSS system.

The same report said that China will stop using this frequency this year, while it is not used in Australia, New Zealand, the USA and in the Pacific.

The Wireless Institute of Australia had to ask for frequencies probably between 495 to 510 khz, while New Zealand also wants these frequencies. IARU Region 1, 2 and 3 have formed a committee to try to obtain these frequencies for radio amateurs worldwide. The RSGB³ will probably apply for 500 – 517 khz, while the ARRL⁴ has also applied so that American radio amateurs will also obtain frequencies from 495 to 510 khz. We will also do our best to acquire them.

70 Mhz

We have long been trying to get permission to use 70Mhz which has long been used in the UK, Cyprus, Gibraltar and other European and African countries.

³ <http://www.rsgb.org>

⁴ <http://www.arrl.org/news/stories/2005/04/22/100/?nc-1>

Moreover, even countries who have previously been under the Soviet Union were granted permission to use it.

Among other countries, there are Denmark, Finland, Greece, Greenland, Faroe Islands, Sweden, Croatia, Portugal, Slovenia, Poland, South Africa, and Pakistan.

Years ago, there used to be a beacon transmitting on this frequency, and there were reports that it was heard in Germany.

Our request has so far been refused. We hope that we will not have to wait until the final judgment day to be granted permission to use it.

5 Mhz

Radio amateurs in America, the UK, Norway and other countries were granted permission to use frequencies on 5 Mhz. Experiments are being carried out where low antennae are used to direct the radio signal straight up and at high angles. This means that there will be communications without any dead zone. We hope that we will also be granted permission to use these frequencies.

7 Mhz

The 2003 World Radio Conference has authorised national authorities to grant radio amateurs the exclusive use of frequencies between 7 Mhz and 7.2 Mhz on a world-wide basis, and on a shared basis between 7.2 Mhz to 7.3 Mhz.

Other countries such as the UK, Northern Ireland, the Czech Republic, have authorised their radio amateurs to operate between 7 Mhz and 7.2 Mhz. We are communicating with the authorities to be granted permission to use the same frequencies.

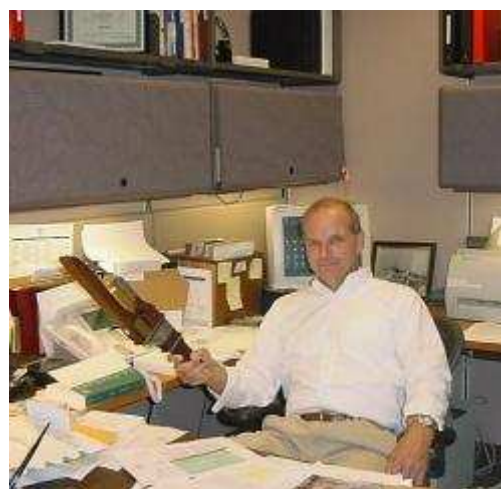
Interesting Internet Webpages

Boatanchors pages. Old radio equipment is called a boatanchor because it is much more heavier than today's equipment.

<http://id.webring.com/hub?ring=ba>

The Wouff-Hong

It appears that the bit about the Wouff Hong was well received by MARL members, although one could not know its size from the picture. Today, therefore, here is a photo of one of the ARRL officers holding a Wouff Hong. This is also found on the ARRL website.



It appears that for some, the use of the Wouff Hong was not enough. Another more terrible instrument was therefore invented.

This was called the "rettysnitch" and there is no doubt that this was worse than the Wouff Hong as can be seen from the picture below which is taken from the ARRL website.



If the Wouff Hong was a terrible instrument, there is no doubt that this was worse. Be careful not to let anyone have a reason to use it on you.

Frequencies for Maltese Radio Amateurs

Frequencies that may be used by Maltese radio amateurs according to the 2002 national band plan.

Mhz	-	Mhz
1.810	-	2.0
3.5	-	3.8
7.0	-	7.1
10.1	-	10.15
14.0	-	14.35
18.068	-	18.168
21.0	-	21.45
24.890	-	24.990
28.0	-	29.7
50.0	-	52.0
144.0	-	146.0
430.0	-	440.0
Ghz	-	Ghz
1.240	-	1.300
2.300	-	2.450
5.650	-	5.850
10.00	-	10.50
24.00	-	24.25
47.00	-	47.2
76.00	-	81.0
122.25	-	123.0
134.0	-	141.0
241.0	-	250.0

75.5 – 76 Ghz is allocated to radio amateurs on a primary basis up to 2006 (WRC 2000)

81 – 81.5 Ghz is allocated to radio amateurs and their satellites on a secondary basis

Islands On The Air

Those interested in working different islands ought to know that there is an organisation which has its own webpage with details about islands which are going to be activated and where details can be put by anyone who is going to operate from an island. The website address is, <http://www.rsgbiota.org/index.php4>

Those interested also meet on the following frequencies. 3.530, 3.755, 7.055, 10.115, 14.040, 14.260, 18.089, 18.128, 21.040, 21.260, 254.920, 24.950, 28.040, 28.460 u 28.560, while the main frequency is 14.260, all frequencies being in Mhz.

It would be a good thing to activate all the Maltese Islands such as Kemuna, Kemmunett and Filfla, which requires a special permission to land on it as it is a protected natural reserve.

International Lighthouse Day

A Lighthouse Day is held every third weekend in August. This starts at 0001 UTC on Saturday and finishes at 2359 on Sunday. As you can see, it's actually a two-day event. This year the dates are the 21st and 22nd August.

During the same two days, the Lighthouses will be opened to the public to become aware about them and the necessity of their restoration and preservation.

This activity is not a contest, but everyone is encouraged to work other radio amateurs as well as those working from Lighthouses.

CW

Frequencies Mhz	Centre	Frequency Mhz
3.510 – 3.540		3.521
7.005 – 7.035		7.021
14.010 – 14.040		14.021
21.010 – 21.040		21.021
28.010 – 28.040		28.021

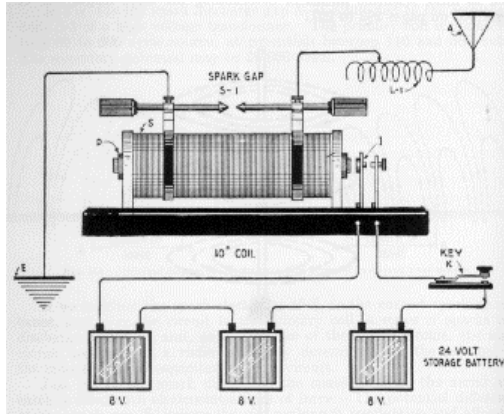
Voice

Frequencies Mhz	Centre	Frequency Mhz
3.650 – 3.750		3.721
7.040 – 7.100		7.051
14.125 – 14.275		14.221
21.150 – 21.250		21.221
28.300 – 28.400		28.351

385 Lighthouses from 52 countries took part in the 2004 event, among which was the Ġordan Lighthouse in Gozo with 9H4GRS/P. Many Lighthouses have

webpages and e-mail addresses. It would be a good idea for our League to start taking part in this event from this year and operate from the Dellimara Lighthouse. Website and details may be found at <http://illw.net/index.html>

Anti-BPL/PLC Equipment



As found on www.qrz.com

CW

Those who want to practice cw can find an ARRL transmission schedule by W1AW on <http://www.arrl.org/w1aw.html#morse>

A New Satellite

A new satellite has been launched by Indian radio amateurs. This has been given the number VO-52, receives on 435.250 and transmits back on 145.900 Mhz. It is a linear transponder and can therefore be used on SSB and CW, passes twice a day and is intended mainly for Asian amateurs. Further information may be obtained from <http://www.amsatindia.org>

Esperiments on 10Ghz

Amateur radio never stopped evolving since the first Radio Society was set up in Malta in 1922. Since Malta was a British colony, radio amateurs were strictly controlled and were only tolerated to operate under very strict guidelines and control by the colonial authorities.

However, in spite of all these difficulties and lack of components and equipment, they managed not only to advance in their research, but one can say that they made valid contributions to the development of amateur radio.

As an example, the contributions made by Professor Gaston Tonna Barthes could be considered as a goldmine for amateur radio. He also used to receive BBC Television on home-made equipment before WWII.⁵

Robbie Galea was also one of the very first radio amateurs who learned the Morse code and used to listen to the Eiffel Tower transmissions from Paris and retransmit its news bulletins on homemade equipment while he was still a young boy. He was the QSL manager of our League for many years.

Homemade equipment was always one of the means for Maltese radio amateurs to get on the air and nearly always formed part of their station. This has been carried over to 10 Ghz experiments.

Around 1983, three very dedicated radio amateurs started experimenting on 10 Ghz. These were 9H1ES, 9H1GB and 9H1FX, who carried out the first transmissions with home-made equipment and with very little test equipment.

The power was very limited, a mere 20 mw, a 1N230 mixer diode with a 250 khz wide-band IF, and a 45 cm parabolic dish

⁵ I remember that there was a copy of a framed pre-WWII BBC publication at the present club premises, which mentioned this. It featured a photograph of Profs Gaston Tonna Barthes with his equipment, either at the Evans Laboratories or at the old University building in Valletta. If I remember correctly, it was on the front page. It seems to have vanished when the club was being renovated. I am sure that it will be greatly appreciated by the club if anyone who knows where it would get in touch with a committee member. I don't know if it is possible to get in touch with the BBC to get a copy. Remember that it is a confirmation of part of Maltese radio history. Lawrence 9H1AV.

antenna with a penny-feed system. Nevertheless, contacts were made with IT9OSF and IT9MHI in Sicily and also Sardinia.

These contacts provided experience on the effects of temperature and humidity during various times of the day, night and seasons. The introduction of larger antennae, gunplexers, more sensitive IF's (30 Mhz) and AFC resulted in a great number of contacts, including Pantelleria and Sardegna and further enhancing the operators' experience on 10 Ghz.

In 1987, 9H1ES constructed a 10 Ghz transverter with an output power of 200 mw, using an FT290 Mk1 as a tunable IF and a 1 metre parabolic dish and front fed horns with waveguide which resulted in contacts being made with Sardegna and Spain. However, 9H1ES had to stop his experiments in 1989 due to personal circumstances and family bereavements.

In 2002, 9H1LO initiated his experiments on 10 Ghz with TVRO LNB's and an ex-TVRO analogue receiver, while LNB's were modified for transmission on 10.475 Ghz with a power of 40 mw and were base-band modulated. In June 2002, 9H1LO received his first pictures from an amateur TV repeater in Ragusa, Sicily, JM75IA. Interest was shown and MARL worked to acquire permission to use ATV transmissions.

9H1LO contacted 9H1ES who had vast microwave experience and equipment for his help, which rekindled his interest in 10 Ghz. 9H1ES built a TV receiving station on similar lines as 9H1LO and got good quality pictures from the Ragusa TV repeater.

9H1ES and 9H1LO joined forces and equipment and 9H1PF manufactured a slotted wave-guide antenna with 16 slots and 180 degrees beamwidth which gave excellent results.

These efforts resulted in the construction of an ATV repeater by 9H1LO with antennae manufactured by 9H1ES and 9H1PF. This was installed at Mdina and

transmits on 10.475 Ghz and receives on 1.255 Ghz.

10 Ghz SSB Tests

Further interest in 10 Ghz was shown by 9H1BN, but lack of interest was shown by other amateurs. However, 9H1BN and 9H1VW got together and started assembling various units and got other amateurs interested in 10 Ghz SSB.

9H1LO modified a commercial data transceiver tuned to 10.368 Ghz with 200 mw rf power, SSB Electronica transverter, 60 cm off-set chaparall fed dish with 2 metres of very low loss coax cable and an FT290 Mk1 as a tunable IF. Equipment was aligned and tested on 9H1ES equipment.

9H1ES old equipment consisted of an SSB Electronica transverter, PW Parabolic antenna with penny-feed system with 200 mw output power and an FT290 Mk II as a tunable IF.

9H1ES installed a beacon at his residence using modulated frequency shift keying and using about 15 metres of waveguide to the roof. Tests were carried out on 10.368.9 from his home to Selmun at a distance of 9 Km and to Mellieha at 11 Km.

It was found that line of sight was not required for contact to be established and further test were carried out to confirm this with 9H1BN.

Tests were also carried out between 9H1ES and 9H1LO to check and calibrate the equipment before further experiments were conducted.

The next experiments were made with 9H1LO operating from the sixth floor of a hotel in Xemxija and 9H1ES from his home. Signal reports were 3x3, but this was encouraging in view of the large obstacle of Wardija hill between the two stations. Other attempts were made even when conditions were not good, such as bad weather and haze.

9H1LO tried operating from the middle of the room at his home with one window overlooking Wardija hill. This time, 9H1ES extended the waveguide by 3 metres above roof level and installed a 45 cm dish with a penny-feed system and connected the beacon to help 9H1LO align his dish and with talk-back on 2 metres.

9H1ES then changed back to the transverter, now with an output power of 20 watts and signal exchange took place at 55 and 59 with Wardija hill still in between the two stations. 9H1ES has not yet managed to melt it with his 20 watts.

A fantastic 4-way contact took place between 9H1ES at Mellieha, 9H1LO at Hal-Lija (QTH of 9H1SP), 9H1BN at Paola, and 9H1VW located at Msida Bridge.

4-way continuous contact was established at 1830 on 18 January 2004 in spite of the stations not having their dishes aligned on each other. This was another example that clear line of sight was not required for contacts on 10 Ghz.

Another contact was established between the coordinates of Naxxar and Mosta, with 9H1VW beaming on a windmill and 9H1ES totally dwarfed by a school in his path, with signals 59 both ways.

Another test took place on 31 January 2004, which was a windless day with 50% humidity. 9H1ES, 9H1LO and 9H1VW were located at different points and coordinates with talkback being on R4.

At first, no contacts could be established. 9H1ES changed his 48 cm dish to a 1 Metre dish, but again no contacts were established even though dishes were aligned to the correct coordinates.

9H1ES switched on his 20-watt twt amplifier and was immediately heard by 9H1VW at Dellimara tower. 9H1ES reaped his dish, carefully tuned and received 9H1VW, but on a frequency shifted by 71 Khz.

This explained the inability to initially establish contact, since when 9H1ES removed his amplifier and using only his ssb exciter at 200 mw, contacts were made at 55, including with 9H1LO.

9H1ES invites anyone who requires information on 10 Ghz operating to contact him at MARL via PO Box 575 Valletta, Marl website at www.9h1mrl.org or info@9h1mrl.org

The intention of writing this article was not only to record what is being achieved by Maltese radio amateurs through their experiments, but also to encourage other amateurs to construct their own equipment and get in touch with those who already have the experience and who very kindly offered their help.

It is hoped that through the examples and experience of those who conducted the experiments mentioned in this article, other Maltese radio amateurs will take up their offer and make 10 Ghz what 2 metres was a few years ago.

This article was written by 9H1JT on behalf of MARL and edited by 9H1AV.

DX

3V Tunisia EA group as 3V8SM 26/7 – 31/7 QSL EC4DX

6W Senegal F5VHJ during CW WW as 6W1RY QSL F5VHJ

6Y Jamaica KB4CRT/6Y5 10/6 – 16/6 QSL KB4CRT

7Q7 Malawi KC4D as 7Q7WW 13/6 – 19/6 QSL KC4D

8Q Maldive 5 EA ops with 8Q7 call 29/10 – 30/10 QSL EC1KW

8R Guyana AH8DX op as 8R1EA during CW WW 19.10 – 30/10

9K Kuwait 9K1F all bands from AS-118 27/7 – 3/8 QSL 9K2RA

9Q Congo SM5DIC till 31/12 as 9Q0AR waiting for 9Q1D call QSL SM5BFJ

9Y Trinidad & Tobago N6TJ as 9Y4AA 27/11 – 28/11 QSL VE3HO

C6 Bahamas 23 Dec – 1 Jan K9GY QSL K9GY

C9 Mozambique SM0EPU as C91EP till 5 July 10, 15, 17 Metres QSL SM0EPU

TM0 France from EU-074 29 July – 5 August QSL ON4ADN

TM4Z France 30 – 31 July from EU-065 QSL F6KHM

FP St Pierre 9-21 June N6RA/FP mainly on 6 Mtrs QSL N6RA

FR Reunion 23-31 Oct F5SGI/FR mainly cw QSL F5SGI

FR/G Glorioso Oct/Nov 4 F ops for 2 weeks details later QSL F5CQ

FS St Martin 29-30 Oct FS/KR7X all bands during SSB contest QSL KR7X 26-27 Nov K7ZUM/FS during CW WW contest QSL K7ZUM

HB0 Liechtenstein ON7TQ & ON6UQ as /HB0 all bands/modes 17-23 Sept QSL ON7TQ & ON6UQ

HR Honduras 18-30 June 3 W ops from NA-057 signing /HR9 QSL home calls

HS Thailand EZ1IZC 26-27 Nov during CQ WW contest QSL EZ1IZC

J3 Grenada AC8G & others as J3A 29-30 Oct

J6 St Lucia N9AG as J68AS, W5QID as J68ID, WB9CIF/J6 21 June - 5 July all bands + 6 metres QSL home calls

J7 Dominica HB9CUA as J79PAK 40-6 metres 11 July to 3 August QSL HB9CUA

KG4 Guantanamo N4BAA (KG4SB) & KG4WW 26 Oct – 2 Nov QSL home call

KH2 Guam KH2X op in contest from OC-026 30-31 July

KH7 Kure 11 ops all bands/modes as K7C 23 Sept – 8 Oct QSL N4XP

P4 Aruba 6-20 Aug 5 US ops as P40QX and their call/P4 QSL KE9I 29-30 Oct W2GD as P40W in CQ WW QSL N2MM

PJ7 St Marteen K7ZUM/PJ7 all bands 29-30 Oct QSL K7ZUM

S7 Seychelles 22 July – 7 Aug OE3JAG as S79JAG all bands

T32 Kiribati 28 Sept – 15 Oct IT9YRE, I1SNW, IT9EJW as T32Y, T32SNW and T32EJW from new IOTA reference

TF Iceland TF2SYL during YL meeting 10-20 June QSL via Buro

TT Chad F4ESG as TT8PK 20 May – 20 July QSL F4ESG F6GYV till 31 Aug as TT8FT QSL F6GYV

VK9 Norfolk VK6AA from OC-005 22-29 Nov QSL DL8YR

VK9C Cocos Keeling 11-21 Nov W0YG as VK9CG mainly RTTY

VK9X Christmas Is 25 Oct – 6 Nov VK2CZ as VK9XD 12-20 metres QSL VK6NE W0YG as VK9XG 25 Oct – 6 Nov 160, 80, 20 metres QSL W0YG

VP2E Anguilla 10 Oct – 1 Nov VP2EWX (W4WX), VP3EDP (WA4ET), VP2ECM (N1WON), VP2EAZ (W9AAZ) QSL home call

VP5 Turks 12-24 June K7LAY & K7LAZ all bands mainly CW QSL home call

VP9 Bermuda 30 July - 15 Aug G3SQX/VP9 QSL G3SQX

VQ9 Chagos up to July VQ9LA all bands/modes

XY Myanmar 20 May – 20 July UT4UT
will activate AS-167 QSL UT4UT

YA Afghanistan till 31 Dec DL2JRM as
T6RM QSL DL2JRM
DL2SE as T6Y QSL DL2SE

ZD8 Ascension 29-30 Oct N6TJ as ZD8A
during contest QSL VE3HO
4 EA ops as ZD8C QSL EA1URS

TM6ACO 5-19 June 73 Le Mans race and
24 hours during the race on 18/19 June.
This is the 54th year of amateur operation
during this famous race. From 1952,
F3YE, F3XC, F8GE, F6KFI, TV6ACO &
TM6ACO were used.

ON6BD is on every Sunday from the
lightship Westhinder III from Antwerp till
end October.

N6RA from St Pierre & Miquelon (FP) on
6 metres sporadic-e & moonbounce using
700w & 7-element yagi antenna transmits
first in sequence.

CY9SS dxpedition from St Paul Island up
to 7th July HF & 6 Metres around 50.103
Mhz. Logs on the internet. Details on
<http://www.cy9ss.com>



Photo from dxpedition website

Sources: <http://www.ari.it>
www.rsgb.org
www.arrl.org

Bottled Wisdom⁶

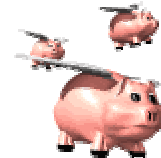
“Ever notice that even the busiest
people are never too busy to tell you
just how busy they are?”

From www.qrz.com

⁶ A Maltese expression

*** MARL Activity ***

Occasion: Chinese Buffet
Date: Saturday 9th July
Post: MARL Club
Time: 8.00 p.m.
Price: LM4.00
More: Sweets & Glass of wine
Children: Free



Come and

Picture from flying pigs radio club website

*** **

SSB

**Excellent source of information and a
complete course on SSB fundamentals.**

- http://www.collinsradio.org/Fundamentals_of_Single_Side_BandTOC.pdf
- http://www.collinsradio.org/Fund_of_Single_Side_BandCH1.pdf
- http://www.collinsradio.org/Fund_of_Single_Side_BandCH2.pdf
- http://www.collinsradio.org/Fund_of_Single_Side_BandCH3.pdf
- http://www.collinsradio.org/Fund_of_Single_Side_BandCH4.pdf
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If you are on the internet just click on the
links or paste them on your browser.