MARL

Magazine by MARL

For Maltese and Gozitan Radio Amateurs

Number 8

June 2006

Smoking is Prohibited

at the Centre

From the Editur

Friends,
I welcome you to another edition of this magazine for June 2006 which is the eight edition of this series.

One of the things that every radio amateur requires to communicate with other radio amateurs is an antenna.

The antrenna can be simple, like a long wire, dipole or other simple antennea, and it may also be a bigger and more sophisticated antenna.

As far as practicable an antenna should be mounted as high as possible, both to preserve its characteristics as well as to be above buildings and other obstacles that may interfere with radio signals.

For this purpose buildings may be used, as well as poles and small or big towers according to the space one has and according to the depth of his pockets.

Wherever it is mounted, we always have to pay great attention so as not to be a danger to others not to ourselves.

I am sayiong this because we hear, outside Malta because up to now we haven't heard in Malta and hope that we never hear, about accidents where radio amateurs are seriously injured and even die when working on their antennae.

In fact, in May there was the sad news where an American radio amateur who was a well-known dx'er was working on a tower he had built for another radio amateur, but was going to remove a big antenna he had bought which was mounted on this tower.

It was reported that he had already inspected the tower for safety before climbing it, and he was familiar with it since he had constructed it himsel.

It appears that something happened and the antenna slid down on the stays, the tower started to swing, then it snapped and this radio amateur fell from a height of about 170 feet and died instantly still tied to the tower with his safety belt.

All this happened in front of his father, and every father and mother knows what it feels if they were to lose one of their children.

Although there are no radio amateurs in Malta who have such high towers, it is not necessary to fall from that height to be seriously injured and also die.

Do not forget that there were cases where people simply tripped on their own legs and died because they hit their head when they fell.

While, therefore, we give our condolences to the relatives of this radio amateur, we encourage you to be careful when you are working on your antennae.

It is better that one does not take risks and be one hundred per cent certain in what he's doing rather than risk and end up dead.

This also applies to all those who work on their own apparatus especially when there are high voltages.

Radio amateurs who are used to work on apparatus using valves are used to work where high voltages are present, but new radio amateurs are used to apparatus working on 12 volts and other low voltages.

This does not mean that because the apparatus works on these low voltages it does not also generate high and dangerous

voltages, and therefore one should also be careful.

It could be that because they use low voltage one would not be so careful as much as he should, and thereby create a danger to himself when radio amateurs used to valve equipment would be more careful.

Always remember that a live person can communicate. A dead person can communicate with no one.

Lawrence 9H1AV

MARL Notice

Limited edition MARL lapel badges

The committee wishes to inform you all, that it will have for sale lapel badges.

This will be a limited, and on a once only basis, the cost LM1.75

Available to foreigners at only $10.00 each, including postage & packing.

All those wishing to order a badge act very early to avoid disappointment - contact 9H1ZZ

Present MARL Statute

In the December 2005 edition of this magazine, we made you a copy of the statute of our Society as it was in 1927.

Today we are going to give you a copy of the present statute, that is, that which every member of MARL should know.[1]

[1] Please note that this is an unofficial translation from the Maltese version that is the only legal and binding version. It is only being presented for the benefit of non-Maltese speaking members. The meetings are always held in the Maltese language. Maltese members generally explain the proceedings to foreign members and visitors on a personal basis.

MALTA AMATEUR RADIO LEAGUE

STATUTE

1.1.0 NAME:

This shall be **MALTA AMATEUR RADIO LEAGUE – M.A.R.L.** in this statute called the Society.

2.0.0 M.A.R.L. AIMS:

MARL has the following aims:

(a) To collect within it persons with the aim of increasing interest in Amateur Radio, and in the diverse aspects of electronics.

(b) To advise and discuss with the authorities, subjects connected with Amateur Radio and electronics.

(c) To provide those facilities for members in the fields of teaching and practice in radio and electronics.

(d) To correspond and exchange ideas and opinions with members and other local and/or foreign societies that have the same ideals as those expressed in this statute.

(e) To provide Buro facilities for all regularly paid M.A.R.L. members.

(f) To prpovide facilities for those who are not M.A.R.L. members but who may wish to receive and send QSL cards in the MARL Buro, as long as the rules for this service are observed.

(g) To provide facilities and take part in activities and requirements of national emergencies.

3.0.0 STATUS OF THE SOCIETY:

3.1.0 M.A.R.L. is a society with an autonomous adnministration and is exclusively of a voluntary nature, and does not work with the scope of making gains.

4.0.0 CENTRALI PREMISES:

4.0.1 M.A.R.L. shall have as its central premises:
QASAM INDUSTRIJALI, NOTABILE ROAD, Ħ'ATTARD.

5.0.0 MEMBERSHIP:

5.0.1 M.A.R.L. ħaddan fiha all those interested in Amateur Radio and electronics, as long as the member accepts all clauses of this statute.

5.1.0 MEMBERSHIP PROCEDURE:

5.2.1 Every application for membership nominated and seconded by two (2) persons shall be accepted by the Secretary, who is obliged to expose the application for membership, in a prominent place, specially prepared, for fifteen (15) days.

5.2.2 Every member has the right to make objections for membership of any individual. Such objections shall be made in writing, and given to the Secretary during the time that the application is exposed to the members.

5.2.3 The Committee may also object to membership of any individual. This objection shall also be made in writing.

5.2.4 The decision of the Committee on each objection, after consultation with the person nominated and the secondant, is final, and is not bound by an explanation.

5.3.0 RIGHTS AND DUTIES:

5.3.1 Every member has the right to use all the facilities provided by the Society.

5.3.2 Every member is subject to these duties:

(1) Good and proper conduct during activities.

(2) Good conduct at the club premises.

(3) Regular attendance for M.A.R.L. activities.

(4) Good care for M.A.R.L. property or other members' property.

(5) That at the MARL premises and at other activities organised by it or in its name controversial subjects, including politics are not discussed.

6.0.0 ADMINISTRATION:

6.1.0 The MARL Administration shall be conducted by a Committee consisting of nine (9) persons,

President

Vice President

Secretary

Assistant Secretary

Treasurer

Assistant Treasurer

Club Manager

Two (2) Members

The President, the Secretary and the Treasurer shall be licensed as Radio Amateurs and members for not less than two (2) years.

6.2.1 DUTIES:

(1) Maintain direct contact with the Director of Wireless Telegraphy.

(2) Maintain direct contact with IARU (region 1).

(3) Maintain direct contact with other local as well as foreign societies.

With these contacts the interest of all the Radio Amateurs of Malta shall be pursued.

(4) Organise technical as well as social activities.

(5) Running the QSL Buro.

(6) Issues Awards.

(7) Provide a library.

(8) Appoints a QSL Manager, Awards Manager, and any other appointment required by IARU, and everything that may be required from time to time.

6.2..2 The Committee shall meet at least once a month. If any member is not present for a Committee meeting for three (3) consecuitive meetings, without justification, he shall be considered as having resigned from the Committee.

6.2.3 The Quorum shall be five (5) including the President.

6.2.4 The Committee shall serve for two (2) Years.

6.2.5 In case of a loss of a member it shall be filled by the person who was the runner up during the last election, if there is no one to fill the post, the Committee may make a co-option of a member.

6.2.6 If not enough members apply for the election, the elected Committee may make a co-option of a member to form the Committee.

6.3.0 GENERAL DUTIES:

6.3.1 The President is responsible for the Committee.

6.3.2 The Secretary is responsible for the correspondence and from the minutes of every meeting.

6.3.3 The Treasurer is responsible for the records of member's payments as well as all the finances of the Club. He is authorised together with another person or persons to keep a bank account, and keep not more than than Lm150.00.0 in cash to meet the requirements of the Club. Every direct payment cannot be more than Lm 60.00.0. In case of more he requires the Committee permission.

6.3.4 The Club Manager is responsible to keep a Club inventory and together with a sub-committee take care of the maintenance and everything required by the Club.

6.3.5 The President and the Secretary are legally responsible for M.A.R.L.

6.3.4 The Committee shall from time to time show recognition to an individual or individuals that has or have made a useful contribution for the advancement of Amateur Radio.

6.5.0 GENERALI MEETING:

6.5.1 Every general meeting shall be notified to members at least 21 days before, by a circular in which shall be announced the date, the place and the time at which the meeting is going to be held.

6.5.2 The general meeting shall be called between 1 and 28 February. The agenda for the general meeting shall be sent to all members regularly paid up to 31 December of the previous year to that during which the meeting is being held.

6.5.3 The Secretary shall appoint a time for members to deliver to him motions for discussion during the general meeting. These shall be discussed and may be approved by the Committee. The Committee does not have the right to block any motion from arriving at the general meeting for discussion, unless that motion is not contrary to this statute. In such a case, the Secretary shall give information about that motion to the general meeting. During the time dedicated for members during the general meeting, discussion may be held on the motion blocked.

6.5.4 The agenda for general meetings shall include, among other things:

Reading, discussion and approval of the minutes.

Reading, discussion and approval of the administrative report.

Reading, discussion and approval of the financial report.

Appointment of an Auditor.

It shall specify that ONLY fully paid up members that have paid up to 31 December of the previous year, and who have renewed their membership for the new year before the start of the meeting may take part in the discussions and vote

6.6.0 ELECTION OF THE COMMITTEE:

6.6.1 To be able to contest for election one must present his nomination not later than ten (10) days before the date appointed for the election.

6.6.2 A Commission shall be appointed to take care of this election.

6.6.3 The electin can be either direct or by post.

6.6.4 The election result shall be issued not later than three (3) weeks after the general meeting.

6.6.5 The appointemnt of the Committee officers is made by the same members elected respectively at this election.

6.7.0 EXTRAORDINARY GENERAL MEETING:

6.7.1 In case it is required an extraordinary general meeting may be called to discuss the situation which required such a meeting. This may be called:

(a) By the current Committee members, if there is agreement between them by simple majority;

(b) By thirty (30) M.A.R.L. members who are regularly paid in their membership.

7.0.0 DISCIPLINE:

7.1.0. Every member shall observe his duties as a member, and if he doesn't, he will be subject to be disciplined**.**

7.2.0 DISMISSAL OR INTERDICTION OF A MEMBER:

7.2.1 An individual M.A.R.L. member who is found guilty by the State of having breached or failed to observed Radio Amateur regulations, and because of this his Radio Amateur licence is taken away, or is interdicted from having a Radio Amateur licence, is also, automatically interdicted from joining M.A.R.L. or he shall be dismissed or interdicted from membership, if he is already a member. Any member guilty of a serious breach of this statute may also be dismissed. Such dismissal shall have the support of a majority of the Committee, after the member has been given the opportunity to defend himself.

8.0.0 STATUTE AMENDMENTS:

8.1.0 This statute may be amended during a general or extraordinary meeting with a two-thirds (2/3) majority of the regularly paid up members present.

8.2.0 To make an amendment for this statute, it is required that the proposed amendment is circulated to the members, before the day of the meeting.

8.3.0 For this purpose, amendments for the statute shall arrive at the Secretary at least fifteen (15) days before.

8.4.0 To be valid, an amendment shall be proposed by two (2) members, and seconded by two (2) other members.

8.5.0 The Committee may present amendments for the statute.

9.0.0 M.A.R.L. Winding Up:

9.1.0 In case M.A.R.L. ceases to function, the last Secretary, or in his absence, the

last President, or in his absence the last Treasurer, or in the absence of all these, two of the members of the last Committee, may call an extraordinary general meeting, where a chairman is appointed at that time and the situation of M.A.R.L. is discussed.

9.2.0 To be valid, a decision about the M.A.R.L. winding up shall have been taken by at least one half plus one of the members regularly paid up during the last year, or if this is not possible winding up shall be made automatically.

9.3.0 Money and other property that there may be at the time shall be disposed of according to a decision taken by simple majority of the members present at such a meeting.

10.0.0 INTERPRETATION:

10.1.0 The interpretation of this statute shall be as understood by the Committee.

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HF Band Plan

We have no doubt that every radio amateur knows that there are certain parts of our frequencies reserved for different modes of transmission.

Although in the majority of countries radio amateurs may transmit on all frequencies allocated to them with whatever modes they want, certain countries oblige them on where they may use certain modes of transmission.

This is done so that there will be, as much as possible, no interferance between a different mode of operation and another, and thus peace is maintained between those who are transmitting.

To attain this aim, IARU, which is an organisation having a great number of radio amateur national organisations, has made plans about where different modes of transmission may be made.

Although radio amateurs follow these plans voluntarily, you can rest assured that if you do not follow them you will not remain popular for long with other radio amateurs.

It is therefore good to observe them because as we do not want others to interfere with our signals, we should not interfere with the signals of others.

If everyone does whatever he wants only the law of the jungle will reign and no one will be able to talk to another.

Today we are going to give you the plan on high frequencies use, i.e. HF.

IARU REGION 1 HF BAND PLAN – Effective 1st January 2006
Column 1 Frequency (kHz)
Column 2 Max Bandwidth (Hz)
Column 3 Preferred mode and usage

No rigid bandplan is proposed for 135 - 137 kHz
135.7 - 136.0 200 CW, station tests, QRSS
136.0 - 137.4 200 CW
137.4 - 137.6 200 Digimodes, except CW
137.6 - 137.8 200 CW, QRSS Centre of Activity 137.7 kHz

1.8 MHz Band:
1810 - 1838 200 CW, QRP Centre of Activity 1836 kHz
1838 - 1840 500 Narrow band modes
1840 - 1843 2700 All modes – digimodes, (*)
1843 - 2000 2700 All modes, (*)

3.5 MHz Band:
3500 - 3510 200 CW, priority for intercontinental operation
3510 - 3560 200 CW, contest preferred, QRS Centre of Activity 3555 kHz
3560 - 3580 200 CW, QRP Centre of Activity 3560 kHz
3580 - 3590 500 Narrow band modes - digimodes
3590 - 3600 500 Narrow band modes - digimodes, automatically controlled data stations (unattended)
3600 - 3620 2700 All modes - digimodes, automatically controlled data station (unattended), (*)

3600 - 3650 2700 All modes, SSB contest preferred, (*)
3650 - 3700 2700 All modes, SSB QRP Centre of Activity 3690 kHz
3700 - 3800 2700 All modes, SSB contest preferred, Image Centre of Activity 3735 kHz,
Region 1 Emergency Centre of Activity 3760 kHz
3775 - 3800 2700 All modes, priority for intercontinental operation

7 MHz Band:
7000 - 7035 200 CW, QRP Centre of Activity 7030 kHz
7035 - 7038 500 Narrow band modes - digimodes
7038 - 7040 500 Narrow band modes – digimodes, automatically controlled data stations (unattended)
7040 - 7043 2700 All modes - digimodes, automatically controlled data stations (unattended),
7043 -7100 2700 All modes, Image Centre of Activity 7043 kHz, Region 1 Emergency Centre of Activity 7060 kHz**,** SSB QRP Centre of Activity 7090 kHz, (*)
7100 - 7200 2700 All modes (2009: 200 Hz and 500 Hz segments below 7100 kHz will be extended)

10 MHz:
10100 - 10140 200 CW, QRP Centre of Activity 10116 kHz
10140 - 10150 500 Narrow band modes - digimodes

14 MHz Band:
14000 - 14060 200 CW, contest preferred, QRS Centre of Activity 14055 kHz
14060 - 14070 200 CW, QRP Centre of Activity 14060 kHz
14070 - 14089 500 Narrow band modes - digimodes
14089 - 14099 500 Narrow band modes - digimodes, automatically controlled data stations (unattended)
14099 - 14101 IBP, exclusively for beacons
14101 - 14112 2700 All modes - digimodes, automatically controlled data stations (unattended)
14112 - 14125 2700 All modes
14125 - 14300 2700 All modes, SSB contest preferred, Priority for Dxpeditions 14195 kHz ± 5 kHz, Image Centre of Activity 14230 kHz, SSB QRP Centre of Activity 14285 kHz
14300 - 14350 2700 All modes, Global Emergency centre of activity 14300 kHz.

18 MHz Band:
18068 - 18095 200 CW, CW QRP Centre of Activity 18086 kHz
18095 - 18105 500 Narrow band modes - digimodes
18105 - 18109 500 Narrow band modes - digimodes, automatically controlled data stations (unattended)
18109 - 18111 IBP, exclusively for beacons
18111 - 18120 2700 All modes - digimodes, automatically controlled data stations (unattended)
18120 - 18168 2700 All modes, Global Emergency centre of activity 18160 kHz

21 MHz Band:
21000 - 21070 200 CW, QRS Centre of Activity 21055 kHz, CW QRP Centre of Activity 21060 kHz
21070 - 21090 500 Narrow band modes - digimodes
21090 - 21110 500 Narrow band modes - digimodes, automatically controlled data stations (unattended)
21110 - 21120 2700 All modes (excluding SSB) - digimodes, automatically controlled data stations (unattended)
21120 - 21149 500 Narrow band modes
21149 - 21151 IBP, exclusively for beacons
21151 - 21450 2700 All modes, SSB QRP Centre of Activity, 21285 kHz, Image Centre of Activity 21340 kHz, Global Emergency Centre of Activity 21360 kHz,

24 MHz Band:
24890 - 24915 200 CW, CW QRP centre of activity 24906 kHz
24915 - 24925 500 Narrow band modes - digimodes
24925 - 24929 500 Narrow band modes - digimodes, automatically controlled data stations (unattended)
24929 - 24931 IBP, exclusively for beacons
24931 - 24940 2700 All modes - digimodes, automatically controlled data stations (unattended)
24940 - 24990 2700 All modes

28 MHz Band:
28000 - 28070 200 CW, QRS Centre of Activity 28055 kHz, CW QRP Centre of Activity 28060 kHz
28070 - 28120 500 Narrow band modes - digimodes

28120 - 28150 500 Narrow band modes - digimodes, automatically controlled data stations (unattended)
28150 - 28190 500 Narrow band modes
28190 - 28199 IBP, regional time-shared beacons
28199 - 28201 IBP, worldwide time-shared beacons
28201 - 28225 IBP, continuous duty beacons
28225 - 28300 2700 All modes - beacons
28300 -28320 2700 All modes - digimodes, automatically controlled data stations (unattended)
28320 - 29200 2700 All modes, SSB QRP Centre of Activity 28360 kHz, Image Centre of Activity 28680
kHz
29200 - 29300 6000 All modes - digimodes, automatically controlled data stations (unattended)
29300 - 29510 6000 Satellite-downlink
29510 – 29520 Guard channel
29520 – 29550 6000 All modes - FM simplex – 10 kHz channels
29560 – 29590 6000 All modes - FM repeater input (RH1 – RH4)
29600 6000 All modes - FM calling channel
29610 – 29650 6000 All modes - FM simplex – 10 kHz channels
29660 - 29700 6000 All modes - FM repeater outputs (RH1 – RH4)

Preferred mode and usage Notes

All modes CW, SSB and those modes listed as Centres of Activity, plus AM (Consideration should be given to adjacent channel users).

Image modes Any analogue or digital image modes within the appropriate bandwidth, for example SSTV and FAX.

Narrow band modes All modes using up to 500 Hz bandwidth, including CW, RTTY, PSK etc.

Digimodes Any digital mode used within the appropriate bandwidth, for example RTTY, PSK, MT63 etc.

Sideband Usage Below 10MHz use lower sideband (LSB), above 10 MHz use upper sideband (USB)
(*) Lowest dial setting for LSB Voice mode: 1843, 3603 and 7043 kHz

Notes

Amplitude modulation (AM) may be used in the telephony sub-bands providing consideration is given to adjacent channel users. (NRRL Davos 05).

CW QSOs are accepted across all bands, except within beacon segments. (Recommendation DV05_C4_Rec_13)

Contest activity shall not take place on the 10, 18 and 24 MHz bands.

Non-contesting radio amateurs are recommended to use the contest-free HF bands (30, 17 and 12m) during the largest international contests. (DV05_C4_Rev_07)

The term “automatically controlled data stations” includes Store and Forward stations.

Transmitting frequencies:

The announced frequencies in the bandplan are understood as “transmitted frequencies” (not those of the suppressed carrier!)

Unmanned transmitting stations:

IARU member societies are requested to limit this activity on the HF bands. It is recommended that any unmanned transmitting stations on HF shall only be activated under operator control except for beacons agreed with the IARU Region 1 beacon coordinator, or specially licensed experimental stations.

1.8 MHz band:

Radio Amateurs in countries that have a SSB allocation ONLY below 1840 kHz, may continue to use it, but the National Societies in those countries are requested to take all necessary steps with their licence administrations to adjust the phone allocations in accordance with the Region 1 Bandplan. (UBA - Davos 2005)

3.5 MHz band:

Intercontinental operations should be given priority in the segments 3500-3510 kHz and 3775-3800 kHz.
Where no DX traffic is involved, the contest segments should not include 3500-3510 kHz or 3775-3800 kHz. Member societies will be permitted to set other (lower) limits for national contests (within these limits).

3510-3600 kHz may be used for unmanned ARDF beacons (CW A1A) (Recommendation DV05_C4_Rec_12)

Member societies should approach their national telecommunication authorities and ask them not to allocate frequencies to other than amateur stations in the band segment that IARU has assigned to intercontinental long distance traffic.

7 MHz band:
The band segment 7035-7045 kHz may be used for automatically controlled data stations (unattended) traffic in the area of Africa south from the equator during local daylight hours.

10 MHz band:
SSB may be used during emergencies involving the immediate safety of life and property and only by stations actually involved in the handling of emergency traffic.

The band segment 10120 kHz to 10140 kHz may be used for SSB transmissions in the area of Africa south of the equator during local daylight hours.

News bulletins on any mode should not be transmitted on the 10 MHz band.

28 MHz band:
Member societies should advise operators not to transmit on frequencies between 29.3 and 29.51 MHz to avoid interference to amateur satellite downlinks.

Experimentation with NBFM Packet Radio on 29 MHz band:

Preferred operating frequencies on each 10 kHz from 29.210 to 29.290 MHz included should be used. A deviation of ±2.5 kHz being used with 2.5 kHz as maximum modulation frequency

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136 khz

As we have told you many times, next year the frequency of 136khz is on the agenda of the World Radio Conference.

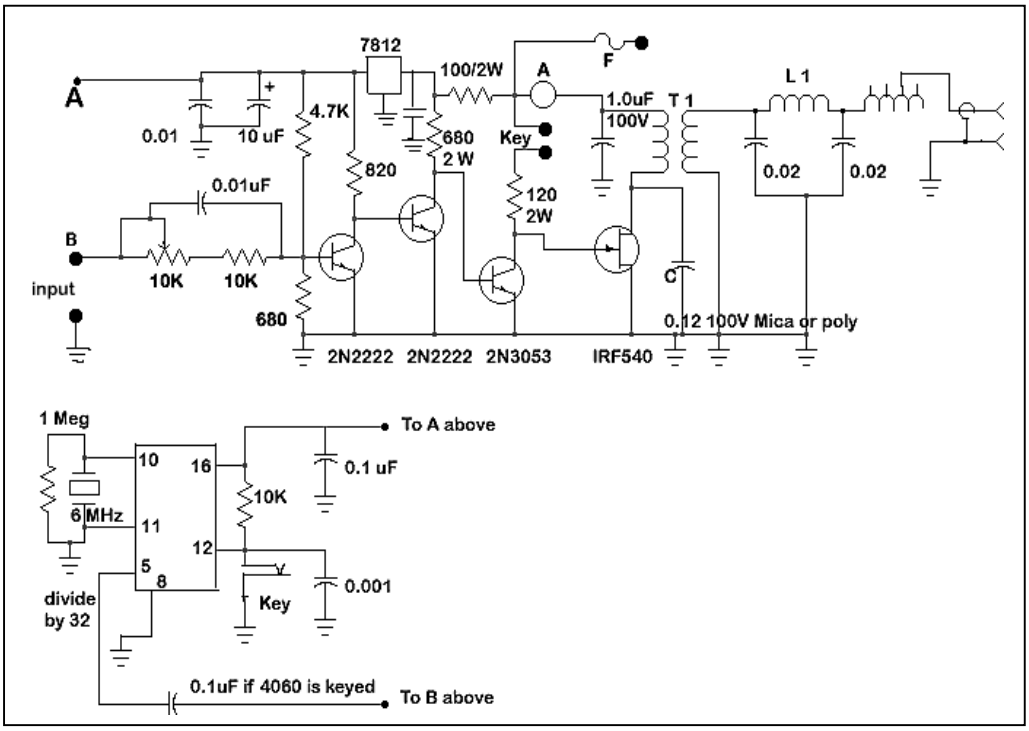
We had also told you that accroding to correspondence which we had with the Communications Authority, if the Conference allocates this frequency to radio amateurs, the Authority can include this frequency with frequencies that can be used by radio amateurs in Malta.

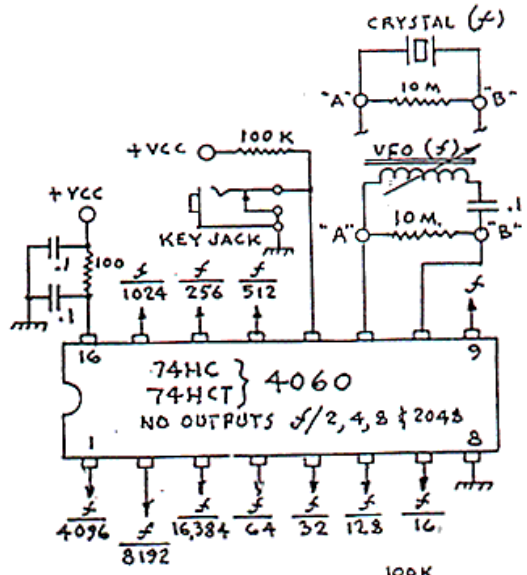
To give you an example of apparatus that one can use as a transmstter, today we are giving you a circuit that is simple and is capable of giving you an output of 50 to 100 watts.

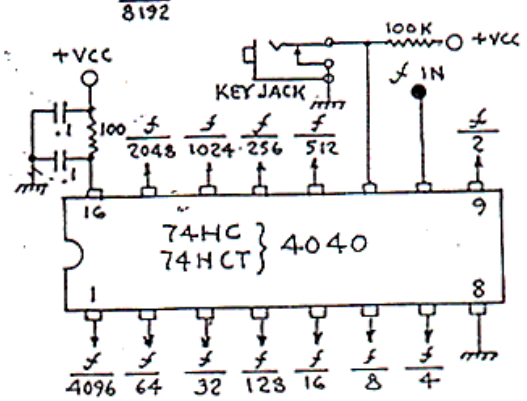
The output depends on the voltage used. If you give it 24 volts it gives you about 100 watts, and if you give it 12 to 12 volts it gives you about 50 watts.

This circuit was originally made by someone else and used about 12 volts, but VE3OT increased the voltage to 24 volts, included a stabilizer on parts of the circuit, and succeeded in icreasing output to about 100 watts. I would leave it at 50 watts and if I want more I would include another Mosfet.

As you can see it is a simple circuit, doesn't cost a lot of money, doesn't use components not found in Malta and you don't need a printed circuit.







The coils are a little large because of the frequency and because they don't use ferrite or other material, but only use bits of plastic pipes as forms. We will give you the details further down.

Even if you use 24 volts first start with 12 volts until you match the antenna with the transmitter, then increase voltage.

The firstthing that we will give you further down is the oscillator and divider circuit and you have a choice whether you use a 4060 or 4040 integrated circuit as there are some differences between them.

If you use the 4060 it has an internal ocsillator, while if you use the 4040 you have to make a separate ocscillator. There is another difference because the 4060 doesn't have a divide by 2, 4, 8 and 2048, while in the 4040 you can also take the frequency of oscillation but you don't have an oscillator.

The details are:

Transformer T1: PVC pipe 1.5 inches diameter and 5 inches long. Wind 80 turns #20 enamel wire. (This is the Secondary). Now wind 15 turns of a

thicker wire about #16 enamel, on the secoondary. The coil measured180 uH.

Filter section.

Use a 2-inch PVC pipe and 5 inches long. Wind altogether 80 turns of #20 enamel. When you arrive at the 40th turn make a tap, and continue doing so every 5 turns until you reach the 80th turn.

In all cases the turns have to be close wound without any space between turns. If you want you can use #18 instead #20 wire, especially if you increase transmitter power.

Wherever you tap they have to be good because the current is high. In fact, VE3OT used screws on each point so that they will make good contact.

The ammeter will have to be at least 5 amps because it is easy to get 4-8 amps at 13.5 volts.

Start by tapping the antenna at the 80th turn, that is, using the whole coil, and you should have between 3 and 4 amps. The more you approach the middle of the coil the more the current will increase. Whenever you change the tap switch off because you can cause damage.

VE3OT used a 4x5 inch heatsink for the IRF540 as well as a small 2-inch computer fan and the IRF540 remains cool. He also used a relay on the 2N3055 and not a morse key directly.

As you can see this transmitter doesn't cost much, because all the integrated circuits and transistors cost a few cents each while the IRF540 costs less than 50c.

Note. The condenser C at the Mosfet drain is important and should be of good quality, such as silver mica or polycarbonate.

Wisdom

Laugh, and the world laughs with you.
Cry, and the world laught at you.
9H1AV

MARL Activities

MARL is going to take part in the IARU World HF Championships that are going to be held at the weekend on 8 and 9 July 2006. Information on the rules can be found on the internet page http://www.arrl.org/contests/rules/2006/iaru.html

There are a number of categories for this activity, and we suggestthat you go to the above-mentioned webpage to see the details.

This is therefore an opportunity for those who want to work some DX because they can find stations from around the world that will be taking part.

Apart from this, it would be good to inform a committee member if you want to help and take part in the activity from MARL.

As many of you know, MARL organised another activity from nearthe Red Tower where communications were held on HF, as well as moonbounce on a frequency of 432 Mhz that were successful.

You will find details about this activity in the next issue of this magazine.

See you.

"Okay your father managed to get a mouse. Now how do we use it?"