



E-M@GAZINE
HAM-MAG



The first free & monthly E-magazine for amateur-radio, SWL...

RADIO AMATEURS BOUNCE A SIGNAL OFF VENUS



Build your RF-Power Meter



Getting started in contest



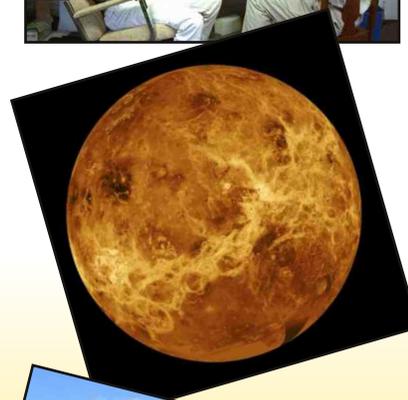
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The Hall of Fame

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PHONETICS – AM I BEING UNDERSTOOD? By Gary Sawyer W0GDS

All through my years of various communications operations in this great hobby of radio, I have always been attuned to the pronunciations of words in vocabulary and how we try to clarify what we are saying to another operator.

Sometimes there is an outright laugh that cannot be helped due to the poorest of poor examples of words some people come up with when faced with trying to phonetically pronounce their intended words.

Most all of the professional (not so much an actual professional as they are just involved in that realm of communication) have been taught in either the Military or Law Enforcement phonetics styles. It is not difficult for one to access this information on phonetics in Amateur Radio. Simply look in the Technician Manual and there is a listing of the words and their phonetic mate, along with the “Q” signals and the chart for R-S-T meanings. That is another area altogether, we shall talk about that another time.

Having been trained in both areas of phonetic usage, it had not been difficult for me to cross train and learn the other style. There may be times that I must hesitate to quickly recall the correct mate word to use, but it has never been lost. Humorous times in the law enforcement operations. Some years ago when I was working as an officer for a small suburb in Dallas County, Texas, there was a new woman officer trainee learning how to use the radio and call in requests for license and registration. Most everyone in that situation of working on the same shift will always listen more intently waiting for some issue to arise.

We have all been there in our early days of operating a radio when we were timid, shy, and nervous about keying the microphone and knowing that someone on the other end is going to be listening and waiting for us to make a mistake and then we will hear the laughter, chatter and all the resulting jokes about our technique. When this officer was with her training officer, he let her call out on a traffic stop and in that event the location, and the license plate of the vehicle, along with the description of the vehicle is given. The license plate was one of those with alpha characters and some numerals. To give the alpha characters that distinction of which characters she was seeing she relied upon her immediate knowledge and recited the letters as “K” “H” and then stated “Kitten - Harold.”



Everyone was cracking up! It was a riot for the remainder of the shift. She has not lived that day down yet and it has been over twenty-years now. How funny. But that is right! We all do it. We have a memory blank and use the most immediate word that comes to mind and before we know it that word is out on the air.

Phonetics is not only for brevity, but also for clarity. Hopefully it makes the reception of the information by the other operator easier to understand the first time. By our usage of the prescribed format and mate words being used in the particular service, our communications will be easier to understand and concise.

Today when I listen in on public safety or amateur radio HF frequencies, I still hear operators adlibbing with the most atrocious mate words. Instead of using "JOHN" for the letter "J" in public safety I hear officers say "JACK" or even "JILL" and this does not sound very professional at all. Of course it keeps the airwaves hopping with funny sounding words but it is not something that would be measured as professional by someone who is conducting a survey of proper procedures.

On the amateur radio I many times will hear operators using "KILOWATT" for "K" when the proper mate word is "KILO". Kilowatt is a measurement of power and not a word for phonetics. There are many other substitute words being used in amateur radio and it really sounds poor. Often times I will hear the DX operators outside the USA, using better proper phonetics over what one would expect from the largest country with number of licensed amateur radio operators.

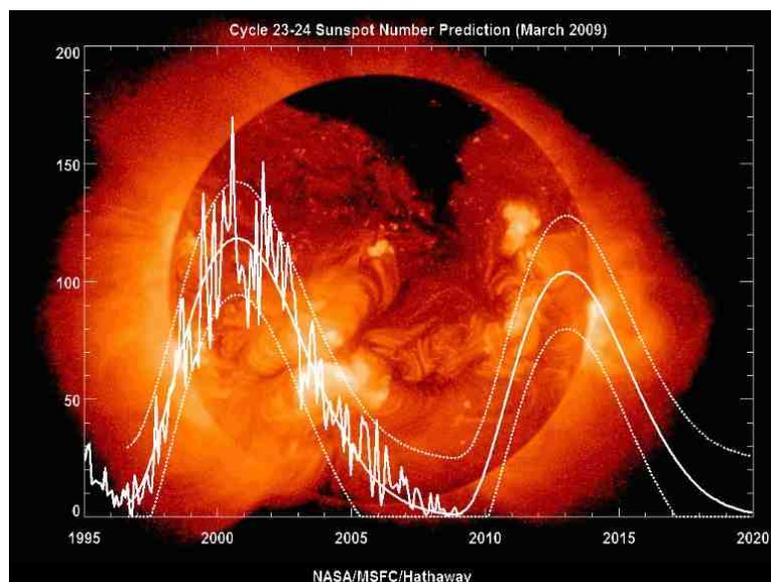
One major item about amateur radio is that there is no one country that holds any precedence of superiority over another country. The USA seems to have more licensed operators and there seems to be more manufacturers of radio related equipment in the USA than most any other country. Germany and Japan both have some very good quality equipment produced in their respective countries. When I hear an operator outside of the USA they are usually better at their phonetics usage than the operators in North America or the USA.

So in closing I would offer this to all my fellow operators in the entire amateur radio and any professional communications operations, become very familiar with the proper professional phonetic words that are listed to be used to verify the letters that are being said, instead of substituting with local colloquialisms and "funny" words that do not sound professional at all when on the air. You will feel better about yourself, and others will be able to more clearly understand you as well.

73 and have fun with the new cycle.

Gary WØGDS

** An article being submitted for consideration of printing in QST Magazine*



Getting Started in Casual Contesting

By Dick Thompson - WØRAA



Having been licensed for many years (45 years in all), I have had an opportunity to partake in many of the various facets of amateur radio. I've been a net control station for the Ohio SSB Net when I was living in Ohio. I have participated in many disaster situations including the 1964 Palm Sunday Tornado that struck Indianapolis, IN and the surrounding communities. (I may be one year off on the year, but at my age, senility makes for a good excuse). I have handled phone patch traffic for troops stationed in far off places like Korea, Viet Nam, Europe, etc. I've demonstrated amateur radio in Special Events and participated in many Field Day operations. All have been very rewarding and in most cases, fun activities. But that's not the purpose of this article. Amateur radio offers something for everyone, and many, if not all, can be fun activities. In the past few years I have found my niche in ham radio: contesting.

For many years I dabbled in contesting in one form or another. I rarely submitted a log in any of them and my participation consisted of mainly passing out contacts to the serious contenders. Then, after I retired I decided to get back on the air (after having been off the HF bands for almost 10 years). I live in a retirement community and management kind of frowned on antennas. So, one day I approached the then current manager, and told him I had been a ham for almost 40 years, and I wanted to get back on the air and had intentions of putting up a vertical antenna. (I was mainly on 2 meters and 440 during that 10 year period, so I was never completely off the air). His response was "No problem, as long as the neighbors don't complain about television interference, etc." So, I was on my way.

I decided to get back into doing some contesting and looked at my options for various modes. Of course SSB can be done by anyone, CW has always been a fun mode for me, but I had never experimented with digital modes like RTTY and PSK31, etc. I bought an Icom 757 and put up a 14 AVQ vertical. It was great being back on HF again. I made many contacts that summer, and had only one complaint from a neighbor. I was getting into her computer speakers. A couple toroids solved that problem. No problems since.



I decided to get into a CW contest, so I entered one of the SS (Sweep Stakes) contest. I can't recall which one. I had a ball. My score wasn't very much, but I had fun and that was my goal. So when the fall contest season started I decided to participate much more than I had in the past. I purchased WriteLog as a contest software package and it worked quite well as it supported many big and small contests. WriteLog is \$35 and renewals are \$35 if you decide that any updates that have been added since your last purchase will be necessary for your needs. All upgrades are free for one year with WL. So, any additional upgrades in that 12-month period are at no charge. The web site for WriteLog is www.writelog.com.

Also, another very capable program (and it is free) is N1MM Logger (www.n1mm.com). It is regularly updated and bugs that may happen as "bumps in the road" are usually fixed in a reasonable period of time once they are reported to the N1MM programming team. N1MM also supports a wide range of contests. I might add that both N1MM and WriteLog support the Colorado QSO Party.

There are other software packages available, but I am not familiar with any of them, so I won't elaborate on them at this time. A Google search for "Contest software" will produce enough sites to keep you busy and off the streets for weeks, if not longer.

Of course, if you don't want to use a computer to log contacts that you make in a contest, there is always the pencil and paper method. Just be sure you can read your writing after the contest is over. Since most log submissions are made over the Internet, and the contest software packages have the ability to create Cabrillo files for submission, I would suggest that you use a computer. Another advantage is that most contests do not allow duplicate contacts on the same band, and the contest software programs will let you know if you have worked a station before. Keep in mind that contesting is not allowed, by gentleman's agreement on any of the WARC bands. The WARC Bands are 12 meters (24.890 KHz to 24.990 KHz), 17 meters (18.068 KHz to 18.168 KHz) and 30 meters (10.100 KHz to 10.150 KHz). There are CW, RTTY & Data frequencies on all the WARC Bands as well as Voice frequencies. The WARC Bands were named after the World Amateur Radio Conference (WARC) held in 1979. The new Channelized 60 meter band is never used in a contest, and the frequency channels vary (there are 5 channels in the 60 meter band). I won't elaborate on those frequencies here, as not many folks are using that band. For those who are not interested in contesting and abhor the QRM created by contests, you can take refuge in the WARC bands and operate with no contesters to bother you.

The use of a computer in a contest simplifies the process and enhances the fun. My favorite form of contesting is using RTTY mode. I participate in most major RTTY contests, including the ARRL RTTY Roundup (I have taken First Place in the Rocky Mountain Division in 2007) as Multi/Single LP (Multi-Op/Single Transmitter, Low Power). Shel (KF0UR) and Jim (N0TUI) were co-operators in that contest. I operated in the Colorado QSO Party last July and took First Place in In-State CW Low Power and First Place in In-State Digital Mode Low Power. Both Single Operator.

CQ Magazine is a huge sponsor of contests. They have the CQWW CW, CQWW RTTY, CQWW SSB, CQWW SSB WPX, CQWW CW WPX, CQWW RTTY WPX, and the list goes on and on. The ARRL sponsors many contest on HF and VHF. The ARRL DX Contest is a big one. The RTTY Roundup is one of the most popular contests also. North American QSO Party contests are very popular and a good way to get your feet wet. A good site to check out, for what contests are happening at any given time, is <http://www.hornucopia.com/contestcal/>. Another is SM3CER's site, which is located at <http://www.sk3bg.se/contest/index.htm>. You may also want to take a look at the National Contest Journal web site located at <http://www.ncjweb.com/index.php>. And there are many more. All are very helpful. Also, there are many contesting forums on www.Yahoo.Groups.com. Do a search for Amateur Radio or Ham Radio. The National Journal magazine produced by the ARRL is a first class publication with a lot of great contesting information as well as hints and kinks type of articles.



Don't forget to look at Amateur Radio Contesting FAQ's at http://www.qsl.net/zs1an/contesting_faq.html#warc.

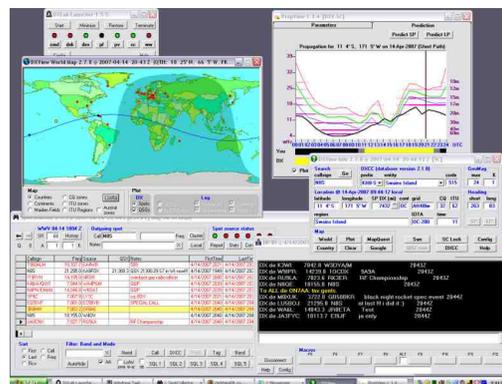
You might ask questions like "What does SOAB mean?" What about "SOLP?" "SOHP?" etc.

These are all abbreviations for contest entry categories:

- o SOLP - Single Operator Low Power
- o SOHP - Single Operator High Power
- o SOAB - Single Operator all band
- o SOSB - Single Operator Single Band, often includes the band, e.g. "SOSB/80" for a single band entry on 80m
- o M/S - Multi/Single - Many operators but only a single transmitter
- o M/2 - Multi/Two - Many operators with two transmitters
- o M/M - Multi/Multi - Many operators with many transmitters

You don't need to have a "Super Station" setup to have fun in a contest. The simplest of rigs and antennas will allow you to participate. Nobody is going to refuse to contact you because your signal isn't 20 over S9. Every contact the big pistols and the small pistols make count for points, and who knows, you may be a "multiplier" contact for someone that may put them in First Place. So every contact counts, and many contesters listen for both the loud and the weak stations.

With the software that is available today and with the soundcards in the computers, getting into a RTTY or CW contest or any contest is a piece of cake. The Fn keys on your computer can be programmed to send your reports, in RTTY, CW as well as voice. I have actually been in contests and never touched the keyboard of my computer. All I had to do was point and click with the mouse. OK, OK, call it lazy, but it's still fun. Ain't technology great, as the old saying goes? You can set the software to key your transmitter, make the exchange and then log the contact, making you ready for the next one. And believe me, they can come fast and furious at times.



If you have never participated in a contest and would like to get started, I suggest that you start by entering a small contest like a state QSO party. There are also short Sprint Contests that usually last about 4 hours on a weekend afternoon or evening. The NAQP (North American QSO Party - CW, SSB & RTTY) are all great contests to enter.



I could go on and on and bring up a lot of other thoughts and ideas on contesting, but you really need to get into a contest to learn what it's all about and find out about all the fun you may be missing or could be having, whichever the case may be.

**73,
Dick - W0RAA**

THE “NO-GO” KIT (as published in World Radio)

by Don Rand KA5DON

Any Amateur Radio operator worth his/her salt has a “Go Kit” or at least a written list of things to grab in the event of an emergency. Many keep the box packed and in the car/truck/camper ready to go, many more have something partially packed. This is not designed to tell you what to pack, or equipment to have. Only to stimulate your thoughts (as if we didn’t already have plenty to worry about) about survival without going out, and providing our communication services to the community.

Recently, I was involved in the State Level planning of an event, rarely even spoken about. Pandemic Flu of the magnitude of the 1918 Influenza. The best reference is the CDC website PandemicFlu.gov. Over on the right hand side of the first page is a link to Community Mitigation. Very interesting reading, and guidance. It has some startling predictions, and casualty numbers, but more importantly, has 3 very simple methods to mitigate the impact of any pandemic event. Let me start by clarifying some facts.

1. This flu is a novel virus, one the world has never seen before.
2. No one in the world will have immunity from it.
3. It will take 3 to 6 months to develop any vaccine.
4. It will be a local event – worldwide (every town, city, state, country will be effected by it).
5. It will last from 12 to 18 months.

This type of event will not require a “Go Kit”. It will require a “NO-GO Kit”. The Amateur Radio Operator will have to stay home.

The first precept of mitigation is to eliminate (not avoie) ELIMINATE contact with anyone outside of your home (Social Isolation). At certain trigger points (see PandemicFlu.gov) schools will be closed, day care facilities will be closed, and all extracurricular activities will be stopped. With that thought, you can imagine the cascading impact on work if someone has to stay home to take care of children. How many business will have to close because of that. How long can utilities (read power grid) be maintained with up to 30% of the workforce unable to work? How many gas stations can stay open, Grocery stores? Some of the larger food suppliers have already said that all fresh food sales will stop. Canned/dry foods only.

The second precept of mitigation is Social Distancing. If you do have to go out of your home, stay at least 6 feet away from anyone else. No hand shaking, no “hugging”, no public congregation. Will your local grocery store have people to stock the shelves, run the cash registers, will there be deliveries to resupply them? One of the major chains has already said they will cut back to non-perishable goods only (can goods, dry foods, etc). No fresh vegetables, fresh meat, and perhaps no dairy products.

The third precept is personal protective equipment. If you must go out, and must interact closely with people outside your home, wear a protective mask, and practice absolute handwashing any time you touch “common use” equipment, and do not touch your face or other parts of your body until you have used a hand sanitizer, or soap and water.

Now, what part of this effects the Amateur Radio Operator. Be prepared, make sure you have as much stored non-perishable food as you can possibly have 3 to 6 months would be best. If you are fully reliant on local utilities (don't have your own well), make sure you have stored water, and means to sterilize city water (boiling, treating) and an alternative method of supplying electricity. Now is the perfect time to consider solar power at least to recharge batteries as there is no guarantee there will be gasoline to power generators since it takes people to run the gas stations, deliver the gas, run the refineries....

Devise ways (intercom at your door so you don't have to open it) to accept messages and still be socially isolated. FRS/GMRS radios in the neighborhood. If you are in a service industry, avoid social contact.

The CDC (PandemicFlu.gov) predicts that 30% of the people in the world will be ill because of a Pandemic Event, with the mortality rate of up to 2% (worst case scenario) of those who do become ill. The numbers are staggering, but can be mitigated down to just above seasonal flu rates if the 3 precepts are rigidly adhered to, Social Isolation, Social Distancing, and Personal Protective Equipment.

Get your NO-GO KIT ready. At the very worst, you will have 3 months supply of food in the house, and an alternative power source for the first Post Pandemic Flu field day.

Don Rand

Originally licensed in 1979 as WL7AGN, upgraded to KL7JS. Re-licensed in 2003 as KD5WHC and upgraded to Extra in 2007 as KA5DON. ARRL ECC1,2, and 3 completed along with all ICS courses 100 thru 800 in addition to all Homeland Security and Army WMD and Situation Response courses. A Registered Nurse since 1974, and involved in Medical Emergency Planning and Response for over 30 years. Retired 1 Sept 2005 (2 days after Katrina) from the US Army with 30 yrs, 10 months, 23 days of service (the last 23 days were the hardest). Can be reached at KA5DON@ARRL.NET



RF Power meter / dummy load

By Guy, de ON6MU

About the power meter / dummy load

A 50 Ohm dummyload is an essential part for any radioamateur as is a powermeter. The prices of such relative simple equipment is expensive, but not for us handy Hams HI. All you need is a metal box (or plastic box painted inside with graphite or other conducting/RF-shielding capable material), a few resistors and basic components (which can be salvaged from old radio's, switching power supplies etc..) and a analog meter. I used a Radio-shack meter, but any (sensitive) meter can be used. It's all a matter of calibrating your meter correctly, which is easy if you can lend a good commercial RF power meter.



This RF-power meter combined with build-in dummy load is made to measure power levels starting from a few milliwatt up to 50 watts (or more if suitable components are used and more then diode is used). IT has 3 scale readings: 0.5 watt, 5 watt and 50 watts. Again, you can extend the scales easily. The power meter is ideal for measuring QRP levels.

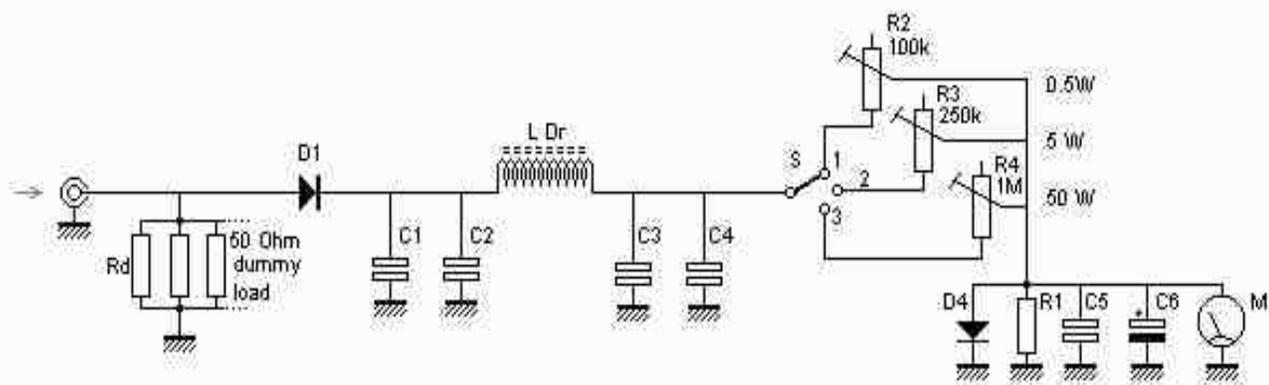
In short, an easy and cheap project to build yourself. Even a beginner in HAM homebrewing can make his own fair (if not better then meters you buy in the shop) power meter!

Calibration

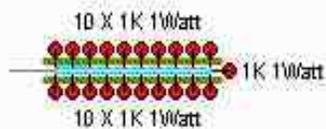
Is done with a good (commercial or already calibrated) SWR/RF power meter capable of measuring HF power levels from 5 (or less) to 50 watts and has a frequency range that covers the entire HF-band. You also need a transceiver which you set in series with the meter:
TRX -> COMMERCIAL RF METER -> ON6MU RF METER.

Set all potentiometers (R2,R3,R4) to maximum resistance. Choose one of the scales (0.5, 5 or 50 watts) to start with. Other power levels/scales with the same step (X1 X10 X100) will have the same indication multiplied. So if you choose scale 2 being 5 watt and calibrate at least 5 power levels of your transceiver it should be ok for the other scale selections. Set R3 for full scale at 5 watt and work your way down. One calibration for all power level settings is sufficient.

See schematic fig1 next page



Dummy load



Total 21 X 1K 1Watt = 49 Ohm 21Watt continue

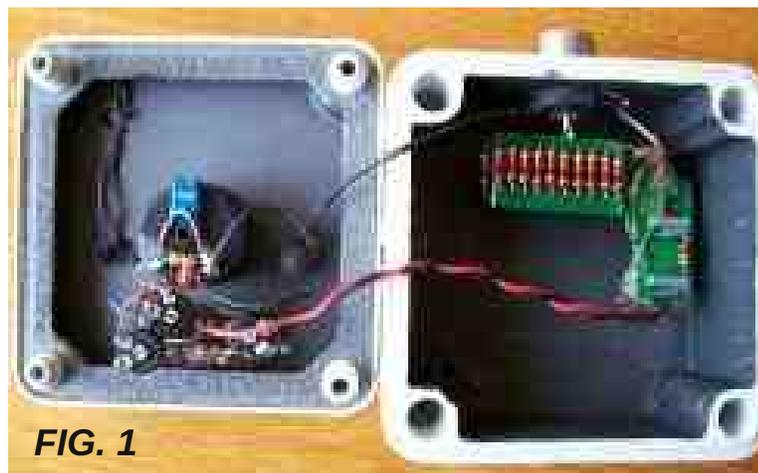
Parts list

- Alu box (or plastic box painted inside with graphite) of 100mmX100mmX 50mm
- 1 female PL 259 chassis (SO239)
- Analog Meter (as sensitive as possible and calibrate the scale with a good powermeter)
- C1,C3 = 330pF
- C2,C4 = 47nF high quality
- C5 = 100nF
- C6 = 10uF/6v tantal
- D1 = 1N1448 (or for higher powerlevels use 2 or 3 more diodes in serie)
- D4 = 1N1004 (protects the meter for all voltage higher then 0.6 volts)
- S1 = 3 pos. switch (or more if you want more power scales)
- L Dr = 500uH or 1M Ohm carbon resistor 1 watt covered with 0,2mm CuI 3 times (or more) turned over the length of the resistor
- R1 = 18k
- R2 = 100k variable resistor
- R3 = 250k variable resistor
- R4 = 1M variable resistor
- Rd = 50 Ohm Dummy load of at least 20 watt (see text)*

Specifications

- precision power meter capable of measuring power scales of 500mW...100W (depending on components used, see text)*
- frequency range: entire HF band 1Mc...30Mc (50Mc should be possible but the precision tolerance will drop)
- switchable scale ranges (in this schematic 0.5W, 5W, 50Watts)
- can be used as dummy load also HI

Inside the powermeter



Dummy load

Is build out of 21 carbon resistors of 1K and 1Watt all parallel. I used two 15mm X 50mm print boards and soldered two times 10 resistors on each side. Solder the two parts on top of each other and solder the 21th 1K resistor where the two parts come together. See fig1 and 2. Do not use inductive type of resistors! Always use carbon based resistors. This dummy load is able to dissipate 21 watts continues and no problem to handle a 10 second peek of 50 watts. Long enough to measure the power. Be sure not to transmit high power > 21 watt for a long time as this will burn out your dummy load! IF you need the dummy load to handle more power then you could use 45 2k2 1 watt resistors which doubles the amount of power (and peek power). Of course you can use 1 k resistors of a higher power rating as long as they are carbon resistors.

73's ON6MU



EVE !!!

Radio Amateurs Bounce a Signal off Venus

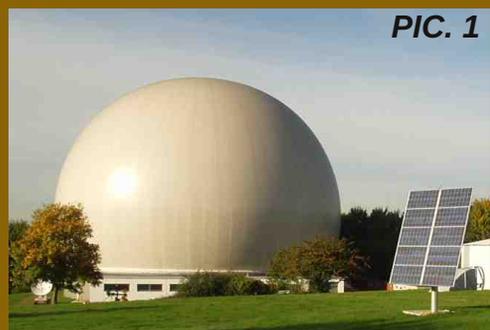


Pic. : Venus lightning concept 2006

Radio Amateurs have achieved the very first reception of amateur signals bounced off the planet Venus over 50 million km away - EVE (Earth-Venus-Earth)

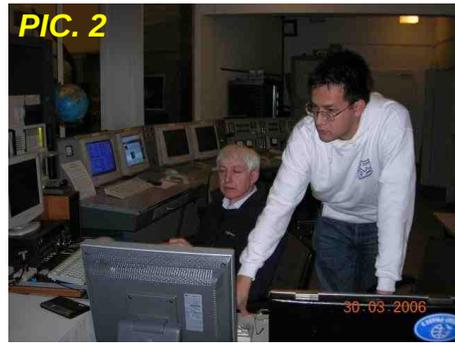
Peter Guelzow DB2OS, President of AMSAT-DL has provided a description of this landmark achievement.

On March 25th, 2009 a team from the German space organisation AMSAT-DL reached another milestone on its way to an own interplanetary probe towards planet Mars. The ground station at the Bochum observatory transmitted radio signals to Venus. After travelling almost 100 million kilometers and a round trip delay of about 5 minutes, they were clearly received as echoes from the surface of Venus. Receiving these planetary echoes is a first for Germany and Europe. In addition, this is the farthest distance crossed by radio amateurs, over 100 times further than echoes from the moon (EME reflections).



For receiving the EVE signals, an FFT analysis with an integration time of 5 minutes was used. After integrating for 2 minutes only, the reflected signals were clearly visible in the display. Despite the bad weather, signals from Venus could be detected from 1038UT until the planet reached the local horizon.

The 2.4 GHz high power amplifier used for this achievement is described in the current AMSAT-DL journal. This represented a crucial test for a final key component of the planned P5-A Mars mission. By receiving echoes from Venus, the ground and command station for the Mars probe has been cleared for operational use and the AMSAT team is now gearing up for building the P5-A space probe.



For financing the actual construction and launch, AMSAT-DL is currently in negotiation with the DLR (Deutsches Zentrum für Luft- und Raumfahrt) amongst others, to obtain financial support for the remaining budget of 20 Mil Euros.

AMSAT-DL wants to show that low-cost interplanetary exploration is possible with its approach.

More information and the link to the official press release [in German]:

http://www.amsat-dl.org//index.php?option=com_content&task=view&id=166&Itemid=97

The EVE experiment was repeated on Thursday, March 26th for several hours with good echoes from Venus. Morse code was used to transmit the well known "HI" signature known from the AMSAT OSCAR satellites.

73s de DB2OS

Peter Guelzow - President AMSAT-DL

A video showing P5-A Project Leader Prof. Dr. Karl Meinzer DJ4ZC and Freddy ON6UG with the 2.4 GHz amplifier used for EVE can be seen at: <http://tinyurl.com/EVE13cmAmp>

Peter DB2OS and other members of the AMSAT-DL team regularly attend the AMSAT-UK International Space Colloquium. This year the Colloquium is being held at the University of Manchester from Friday July 24th to Sunday 26th July. Further details at <http://www.uk.amsat.org/colloquium>

AMSAT-DL has achieved a number of Amateur Radio firsts using the Bochum facility. This was a disused radio telescope restored by volunteers to serve as a ground station for the Amateur Radio mission to Mars P5-A, the first private venture interplanetary spacecraft.

Control Software for the Amateur Radio Bochum Facility

<http://amsat.org/amsat-new/articles/G3RUH/>

Voyager 1 received by AMSAT-DL group

<http://www.southgatearc.org/news/april2006/voyager1.htm>

AMSAT-UK Colloquium 2006 – Receiving Voyager 1

http://www.southgatearc.org/news/june2006/receiving_voyager1.htm

AMSAT P5-A ground station successfully receives ESA's MARS-EXPRESS Probe

<http://www.amsat-dl.org/p5a/p5a-bochum-eng.htm>

Presentations on P3E and the Mars Orbiter P5-A

http://www.southgatearc.org/news/july2008/p5a_and_p3e_presentations.htm

GO-Mars with AMSAT-DL's P5A Mission <http://www.ticket-to-mars.org/>

Attached Pictures

Pic. 1 : Amateur Radio Bochum Facility

Pic. 2 : AMSAT-UK Member James Miller G3RUH and Achim Vollhardt DH2VA receiving Voyager Signals using the Bochum Amateur Radio station.

THE DX NEWS

From the Web (tnx opdx, 425 dx news, arrl...)



5H, TANZANIA

Operators Hermann/DL2NUD and Joachim/DL9MS are planning to be active as 5H1HP and 5H1MS, respectively, from Zanzibar, between May 16th and June 2nd. Activity will be on the HF bands and 6 m. but an emphasis will be on VHF (EME/MS). Grid KI93RU and KI94RA.



8R, GUYANA

The 6 Meter Beacon Project, Inc., is happy to announce a HF-50 MHz DXpedition here between June 16th and July 6th. Antenna for 6 meters will be a 6M7JHV yagi at 45 ft. on the Atlantic Ocean pointed towards EU and NA, and using a 3CPX800A7 amp. Activity will be split between two teams: 11 days will be by Chris/W3CMP and Dave/N3DB, the other 11 days by Terry/K4RX and Ken/AC4TO. They hope to get some decent openings to, amongst other places, Northern EU, 5B/4X and W6/W7. They expect to have internet access most of the time. Operating frequencies and Web site will be announced at a later date.



AN8, CANARY ISLANDS

Operators Luis/EA8AY, Jeronimo/EA8NC, Pedro/EA8QP and Juan/EA8TT will use the special callsign AN8R during the CQWW WPX CW Contest (May 30-31st) as a Multi-Multi entry. QSL via EA8AY. Visit the special AN8R Web page at: http://www.ea8ay.com/an8r_wpx/



AX, ANTARCTICA (Special Callsign)

Bob, VK0BP, currently employed by the Australian Antarctic Division as a Communications Tech from Davis Base Station (WABA VK-03, WAP AUS-03, IOTA AN-016), Antarctica, will be using the special callsign AX0BP on April 25th, to celebrate ANZAC Day. ANZAC Day is a national public holiday to commemorated and honor the members of the Australian and New Zealand Army Corps (ANZAC) who fought at Gallipoli in Turkey during World War I. This holiday is observed by Australia and New Zealand, as well as the Cook Islands, Niue, Samoa and Tonga. Bob can only use this callsign from midnight to midnight (local time -- Davis is +7 hrs UTC). However, Bob will not be able to operate the full 24 hours but will do his very best to operate as long as possible that day. Australian operators can only use the AX prefix just 3 times per year -- Australia Day (January 26th), ANZAC Day (April 25th) and World Telecommunications Day (May 17th). QSL via VK2CA, direct only (2 USDs and a SAE is preferred).



C6, BAHAMAS

Look for C6APR to be active again from the Crooked Island Lodge, Pittstown Point, Crooked Island (NA-113), Bahamas. Activity will take place between July 23-27th, and during the RSGB IOTA Contest (July 25-26th) as a Multi-Op/Mixed-Mode/High-Power/DXpedition entry. Operators mentioned are: Pete/W2GJ, Ed/K3IXD, Dallas/W3PP and Jim/K4QO. Operations before and after the contest by C6APR will be on 80-10 meters including the 30/17/12 meter bands using CW and SSB. Also, look for C6AXD to be on RTTY and C6AQO on 6 meters (grid FL22). All three callsigns are good for Bird Rock Lighthouse (ARLHS BAH-005) as well as IOTA NA-113 and Grid Locater FL22tt. All QSLs go to K3IXD.



GD0, ISLE OF MAN (EU-116)

Stewart, GM4AFF, will be active as GD0F during the RSGB IOTA Contest (July 25-26th) as a Single-Op/All-Band/SSB/24-Hrs/ Island entry. QSL via M0CMK.



HI, DOMINICAN REPUBLIC

Ronny, OT4R, will be active as HI7/OT4R from Punta Cana between May 9-30th. Activity will be on 20/15/10 meters SSB. Suggested frequency for 20 meters maybe 14300 kHz. QSL via OT4R.



S2, BANGLADESH

By the time you read this Ramon, DU1UGZ, is expected to be active as S21UGZ from Dhaka City until June 20th, depending on his work schedule. He will be using a low band dipole at first, so his emphasis will be on 80/40 meters SSB and RTTY. From May through June, he will be using a beam for 10, 12, 15, 17 and 20 meters. He hopes to have a linear in use starting in May as well. QSL via DU1UGZ.



SX5, DODECANESE (GIOTA Op)

Members of the Dodecanese Radio Amateur Association (DRAA) will be active as SX5SYMI from Symi Island between July 31st and August 3rd. Activity is good for the GIOTA (Greek Island On The Air) as DKS 032 and also the IOTA as EU-001. QSL direct to SV5FRI.



V63, MICRONESIA

Operators Shoji/JA7HMZ (V63DX) and Masayuki/JH7IOS (V63CW) will be active from Pohnpei Island (OC-010) between May 11-16th. Activity will be on 40-6 meters using CW and SSB. QSL via their home call signs.



YW0, AVES ISLAND

The 4M5DX Group, which was expecting to activate YW0A from Aves Island in March, is still waiting for a scheduled day by the Venezuelan Navy for transportation.



ZS8, MARION ISLAND

This is per the ZS8T Web page : "ZS8T is now QRT. He leaves the island soon and is expected back in ZS mainland in the middle of May. QSLs will be uploaded to LoTW. Additionally, all QSLs which are sent to the manager will be answered. Any questions regarding his operation from Marion Island should now be directed only to ZS6GCM.



7X - ALGERIA

under the patrona of Mr. the governor of the state of Djelfa and the Director of Youth and Sports, the Algerian Radio Amateur Association (A.R.A) and Djelfa radio club (7X2VFK) will organize an international Ham meeting from 15 to 21 June 2009 with a special call for the event (all modes...), and diploma instead of a qsl card, we provide transportation from Algiers airport to Djelfa and Djelfa at the airport Algiers "Djelfa-Algiers 300km" and the accommodation and catering + a day of sightseeing around Djelfa (rock rock rock sel.et. ...) has all associations, clubs, radio, OM's, XYL's, YL's who want to participate with us in this international event, send us your request for participation at the following addresses: General Secretary of the A.R.A (benlagha72@hotmail.com) or president of Djelfa radio club : (bodil17000@yahoo.fr), to stop our coutrys list participants and to prepare the official invitations . Hospitality is our motto dear OM's, we seek the friendship and brotherhood among radio amateurs in the world then the exchange of experiences of the last transmission technology. Djelfa wish you welcome ...!! The President of Djelfa radio club (7X2VFK) Mohamed

THE DX CALENDAR

BY SM3CVM, Lars

<http://www.sk3bg.se/>

From May 2009 to early 2010



- 3/5 GUYANA; 8R1AD

by KE7TBB and N7EAA. Activity will be on 20 meters using CW, SSB and PSK31. They plan to look for stations who are young ham operators and running low power (kilowatt and under). QSL via N7EAA.



- 5/5 UGANDA; 5X1NH

by G3RWF. This time he may also give digital modes a try, and will try to improve his antennas for the low bands. QSL via home call.



- 31/5 UGANDA; 5X4X

from Arua by DL8SBQ. He runs 100 watts into a spiderbeam for 20, 17, 15, 12 and 10 metres and a Zepp antenna for 40 metres. He has been pirated on 160, 80 and 40 metres - if you worked him during the evening hours, please note that Peter cannot operate after 20 UTC, because the power is off in Arua. QSL via DF5GQ.



- 31/5 CANADA; XL, XN, XM, and XO

Celebrating the 50th anniversary of the opening of the St. Lawrence Seaway, Canadian amateurs are allowed to use the following prefixes: XL (VA stations), XN (VO stations), XM (VE stations), XO (VY stations).



- 20/6 BANGLADESH; S21UGZ

from Dhaka by DU1UGZ. He operates in his spare time using a low band dipole. For the time being, he will focus on 40 and 80 metres SSB and RTTY, but in May he should get a beam for 10, 12, 15, 17 and 20 metres and hopefully a linear amplifier as well. QSL via home call.



- 30/6 NIGERIA; 5NØOCH

by DL3OCH (HB9EHJ). He plans to operate during his spare time on 160-10 metres CW, SSB and RTTY. Also plans to operate EME. Hopefully he will also go and operate from IOTA group AF-076. Further information can be found at <http://www.dl3och.de/>. QSL via home call, direct or bureau.



- 1/7 CHAD; TT8CF

by F4BQO. He plans to operate CW and SSB on the HF bands. QSL direct to F4BQO.



- 31/8 HONG KONG; VR2/F4BKV AS-006

mainly on PSK31 with some SSB during good propagation openings. His web site is at <http://www.f4bkv.net/>

|



- 30/9 CROZET ISLANDS; FT5WO AF-008

by F4DYW says he will be working at Alfred Faure Base on Ile de la Possession. He plans to operate on 20, 15 and 40 metres SSB during his spare time, using 100 watts and dipoles. QSL via home call, direct or bureau. Look for updates on <http://f4dyw.free.fr/index.php?langue=fr&contenu=ft5wo.html>



- 1/11 ANTARCTICA; VKØBP AN-016

is currently working at Antarctic Davis Base Station, Gridsquare MC81xk. His activity is limited due to his workload, but he is expected to be on all HF bands. He seems to like 20 meters between 1500-1800z. Operations have been on SSB and PSK31, but he plans to operate on other modes later on during his stay at the Davis Station. QSL via VK2CA. PLEASE NOTE: There is also a possibility of activating other field huts in the area, and he will sign as VKØBP/P. Look for more details on his Web page at <http://www.vk0bp.org/>



- ca 16/11 LEBANON; OD/W5YFN

has received approval from the local authorities to while in Lebanon, for one year starting on 16 November.



- 2009 WEST MALAYSIA; 9M2TI

by EA4ATI to work in Kuala Lumpur for the whole year 2009. He will work with 400 watts and a vertical in CW and SSB on 40m/20m/15m/10m. He also plans to take part in all major contests (if possible from stations better equipped). QSL via EA4ATI.



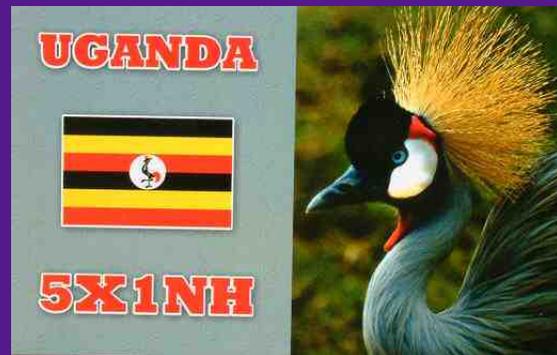
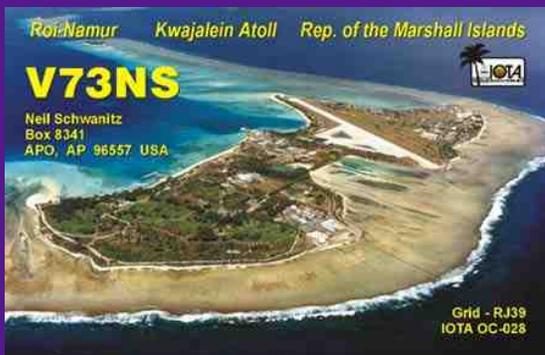
- 31/10 2010 CANADA; VA7PX NA-075

from Mayne Island. QSL via VE7AXU via bureau or direct.



- 2010 MARSHALL ISLANDS; V73NS OC-028

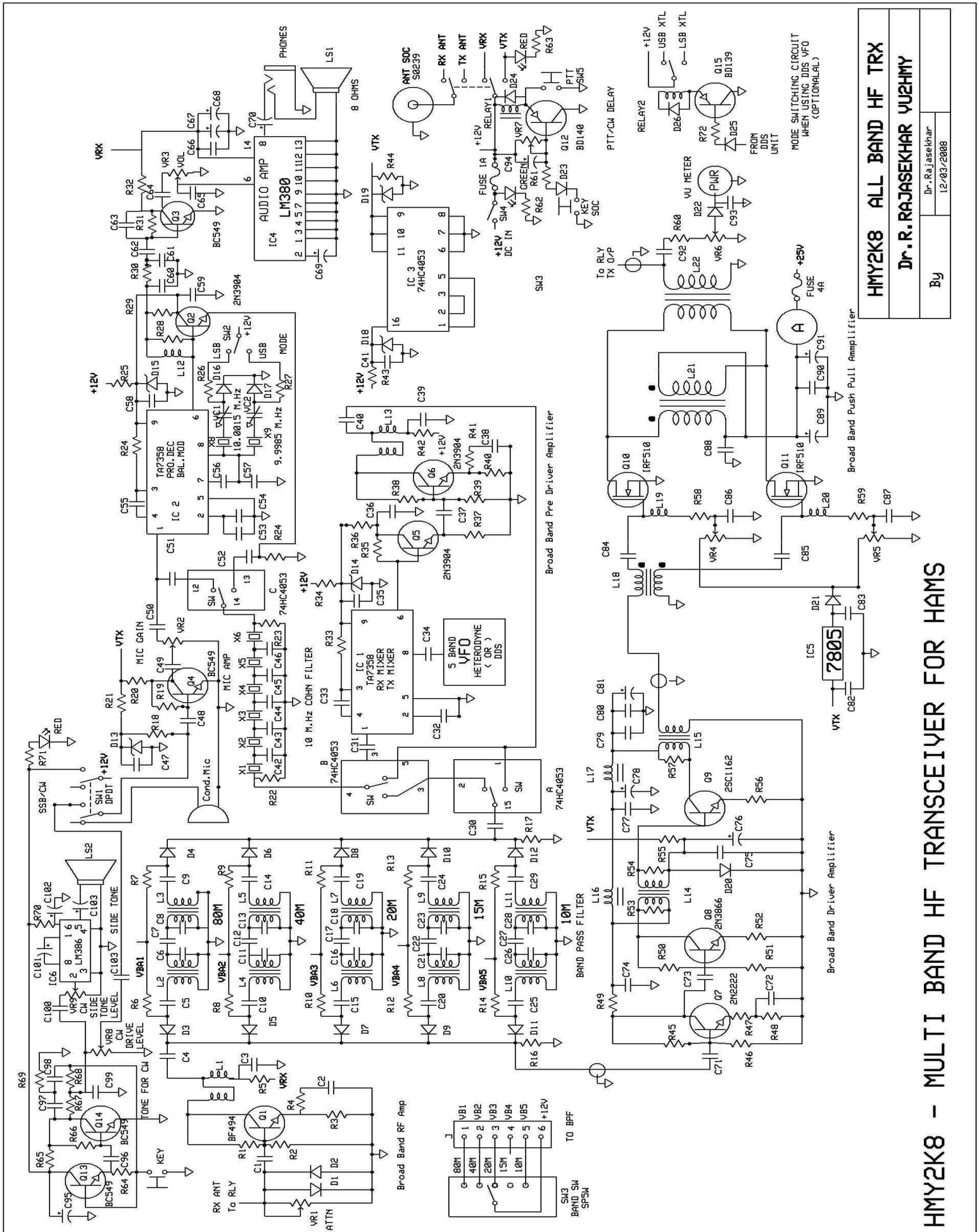
from the Kwajalein atoll by WD8CRT, who will have to work here for two years starting on Jan 5, 2009. He will work mostly in CW on 160-6m. QSL via bureau or direct to Neil Schwanitz, PO Box 8341, APO, AP 96557, USA. His website is <http://www.qsl.net/v73ns/>



Back to the HMY-2K8 - Multiband HF transceiver

By Dr. R. RAJASEKHAR, VU2HMY

In the latest issue # 4, April 2009, the circuit diagram in the article on HMY-2K8 Multiband transceiver was missing. Find it below.



HMY2K8 - MULTI BAND HF TRANSCEIVER FOR HAMS

CQ Contest de YJØAX



When a young Lieutenant James Michener wrote "Tales of the South Pacific" he was based at a US base on the Vanuatu island of Espiritu Santo. When the teleplay "McHale's Navy" was penned, the island Taratupa was in what is now known as Vanuatu. When I first thought of the most diverse culture in the South Pacific I immediately thought of Vanuatu. Like standing under a shower in the morning and letting the day flow over you the culture of Vanuatu runs over your senses in a way that could only happen in the South Pacific.

My wife Lorraine and I had long wanted to celebrate our twentieth wedding anniversary somewhere really special. Thankfully, my knowledge of geography was deemed to be of use in selecting the location of our dream trip, and after negotiation, it was decided that the trip would be to one of the Pacific Islands. The process of selection of Vanuatu was really one of logistics - many of the flights to the various islands do not interconnect well, and unwary travellers might find themselves stranded on a remote Pacific island for up to a week between departures.

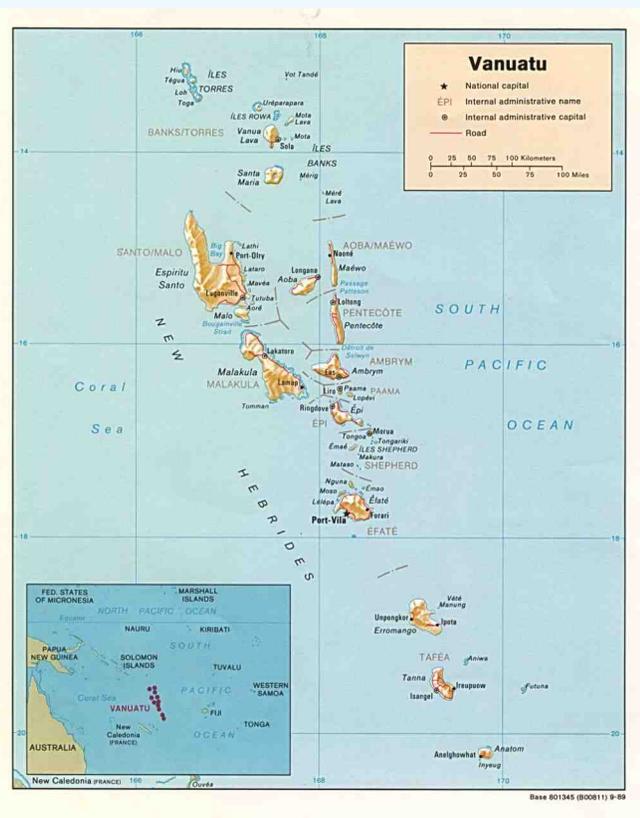
In my research for a holiday location the criteria was simple - easy access from Australia, an interesting culture, accommodation that my children would enjoy, and a good radio location for competition in the Oceania DX contest. It had been twenty-four years since my last contest expedition (VK2NDK/VK9L) and the urge to compete was as strong as always.

Vanuatu has enjoyed much recent publicity, with Survivor's current episode based on Efate, the main island of the group. With a new airline offering cheaper flights to the island, group tourism is on the way up.

Old US Naval personnel once based at Havannah Harbour on the northern side of Efate may have their memories dimmed, but many of the scenes on the current series of Survivor are filmed at a location where, during World War Two, up to 100 ships at a time were anchored. The jungle has long since overgrown the base.

Originally sent to the wrong resort owing to booking problems, we stayed one night at Le Meridien and then on to Le Lagon late on Saturday. The poor old FT990 did not fare well in transit - the front panel was damaged. Apparently "fragile" in some language translates to place under Mack truck gently! I had no display, but had planned to use the computer interface anyway, thank goodness. The clarifier was intermittent, and there were no filters at all for CW. In fact, the receiver seemed to be even wider than ordinary SSB, and very easily overloaded, but I will work that one out when I fix the rig. The front PC board and display were both broken. SSB was usable, RTTY a write off and CW was very tough going.

Got the antenna up with one hour to go. Not lagoon-front as promised but higher up which made grounding difficult. Coral makes a very poor RF conductor! 40 metres was particularly bad, and I gave up at 10:00 local due to lack of contacts. Next morning at 11:00 am I tracked down the resort plumber and got some pipe from him to raise the aerial to around 4 metres. This improved the performance no end, and I finished the contest with just over 100K points from 300 QSO's. Realistically, that should have been 1000 QSO's minimum but that's life. The rest of the week we operated intermittently as the wife reckoned we were there for a wedding anniversary. I made the decision to operate CW to get more bang for my buck in terms of output, as the RF speech processor was creating hum on SSB. Initially, I thought it might be earth loops, but realised that it was trauma-related when the fault proceeded to come and go. Had my variable transformer filters in out and over the line with no effect.



CW was an experience as the last real CW bash I did was Lord Howe in 1979 in the VK/ZL, never having been a real fan of the mode. As previously mentioned, owing to the wedding anniversary negotiations, I did not intend to operate the CW weekend. I was 'devastated' to wake up Sunday morning and find it bucketing down!

"Gee, Lorraine, what in the world could we do today?"

" Why don't you use the radio - it's not a good day to go anywhere" she replied. No wonder I love this woman!

I started around 10:00 am local time and finished with around 50K and 200 QSO's. My best DX was OH6 on ten metres – who says the upper HF bands are dead? I worked all continents on 40 through 10 metres, and found the most unbelievable multi-multi site at the Beachcomber Resort 80 km north of Port Vila. The resort owner is an ex-CB'er, happy to have DX'ers share his paradise. Absolute beach front with uninterrupted views to USA, JA and EU at almost the same location as Quoin.

The local language is known as Bislama and is basically English and a small smattering of French and local tribal words. After dealing with the locals for a week I gained the impression the "no", or "I don't know" is not a part of their vocabulary. Every answer seemed to be "yes", which caused no end of confusion until I realised that "yes" could have eight different meanings. For example, I need a Citibank ATM:

"Excuse me, is there a Citibank ATM down here?" "Yes, not far now."

Walk 100 metres and ask the next person. "Excuse me, is there a Citibank ATM down here?"

"Yes, not far now."

At this point, the local shopkeeper is asked "Excuse me, is there a Citibank ATM down here?"

"Yes, not far now."

By now, I am at the end of the main road in Port Vila. An Australian style hotel looms up ahead. I ask there: "Excuse me, is there a Citibank ATM down here?" "CITIBANK?"

Gee, Mate yer out of luck. There are no Citibank ATMs in Port Vila - try the ANZ Bank."

BUT?? The vagaries of Bislama and the local customs were starting to unfold.

"Ol trak ia oli bararap"

The trucks are broken down

De YJ0AX, a.k.a. Trent Sampson, VK4TI

Tnx DDRC ink





A PIC16F84 based CW Decoder By IK3OIL

The project in few words

I propose a simple CW decoder which makes use of a PIC16F84 microprocessor with a 16x2 chars LCD display. It is equipped with an audio frequency input from your receiver, an input for a straight key and an audio output locked to the input signal. It automatically adapts itself to the CW rate and may be employed for learning purpose substituting the traditional tone generator and offering the capability of displaying the keyed code.

Introduction

This project arises from a twofold need connected with CW learning, first of all to enhance the performance of the traditional oscillator providing it with a display on which you can verify the correctness of your keying, and then the need to have an instrument you can couple to the receiver so as to help those who, being still novices, are in a great trouble trying to deal with their early CW QSOs.

However it should be clear that, in my opinion, neither this device can substitute the ear's and brain's interpretation capability nor other similar instruments can do that. At the most they can help in quickening the code learning.

The decoding capabilities are essentially connected to the received signal quality, it must be clear and strong enough, so don't think you can decode a weak and vanishing signal in the QRM, if this is your goal, you should much better make use of your ears. If however the signal is good and stable enough, then this equipment can succeed in doing its job well, adapting also itself to the CW rate, provided that it is sufficiently regular.

Specifications

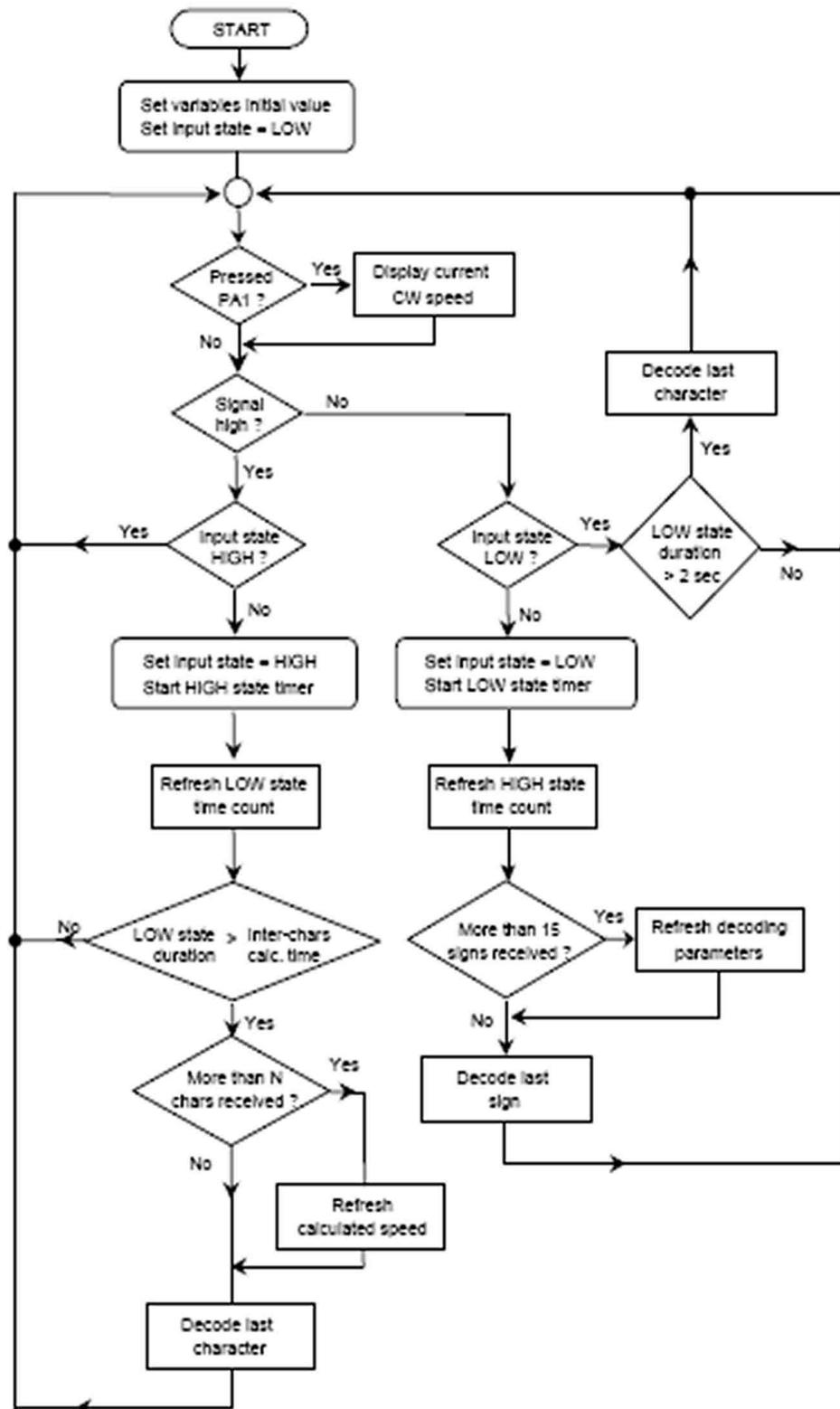
The device is equipped with a 2x16 LCD display, the text shifts from left to the right starting from the end of the second row. An inter-words automatic spacing function is provided, based on a regular timing of the pauses in the sent code. This function may be inhibited grounding the J pin if the device is used for training purpose or while receiving an improperly sent code. The audio input must be at least 100 mV pp, a clipper is provided to cut large signals. The bandwidth is about 100 Hz and the center frequency may be adjusted between 700 and 1000 Hz by a trimmer. A service push button (P1) displays the keying rate in chars/min, this measure is refreshed every N received characters (N is a settable software parameter). An input is provided for a straight Key, and both inputs (audio and key) activate the code display and the audio monitor function, a LED is operative while receiving code and shows the correct lock to the audio input, these two monitoring functions are very helpful to adjust the receiver tune because of the narrow bandwidth of the decoder. The BF monitor can drive a 32 Ohm earphone with the two sides series connected. The Vcc can be supplied by a 9V transistor battery and requires about 15 mA. An external supply (min 9V) is however recommended for long time use. When powered on, the microprocessor is setted for an intermediate keying rate, some characters may be therefore required to reach the lock with the received signal if it is very slow or very fast.

The Decoder Software

The software I developed makes use of the assembler PIC16 language and run on a PIC16F84 microprocessor. It takes a measurement of the received signal ON and OFF time, obtains some statistical mean values, and calculates three parameters which are then used for decoding :

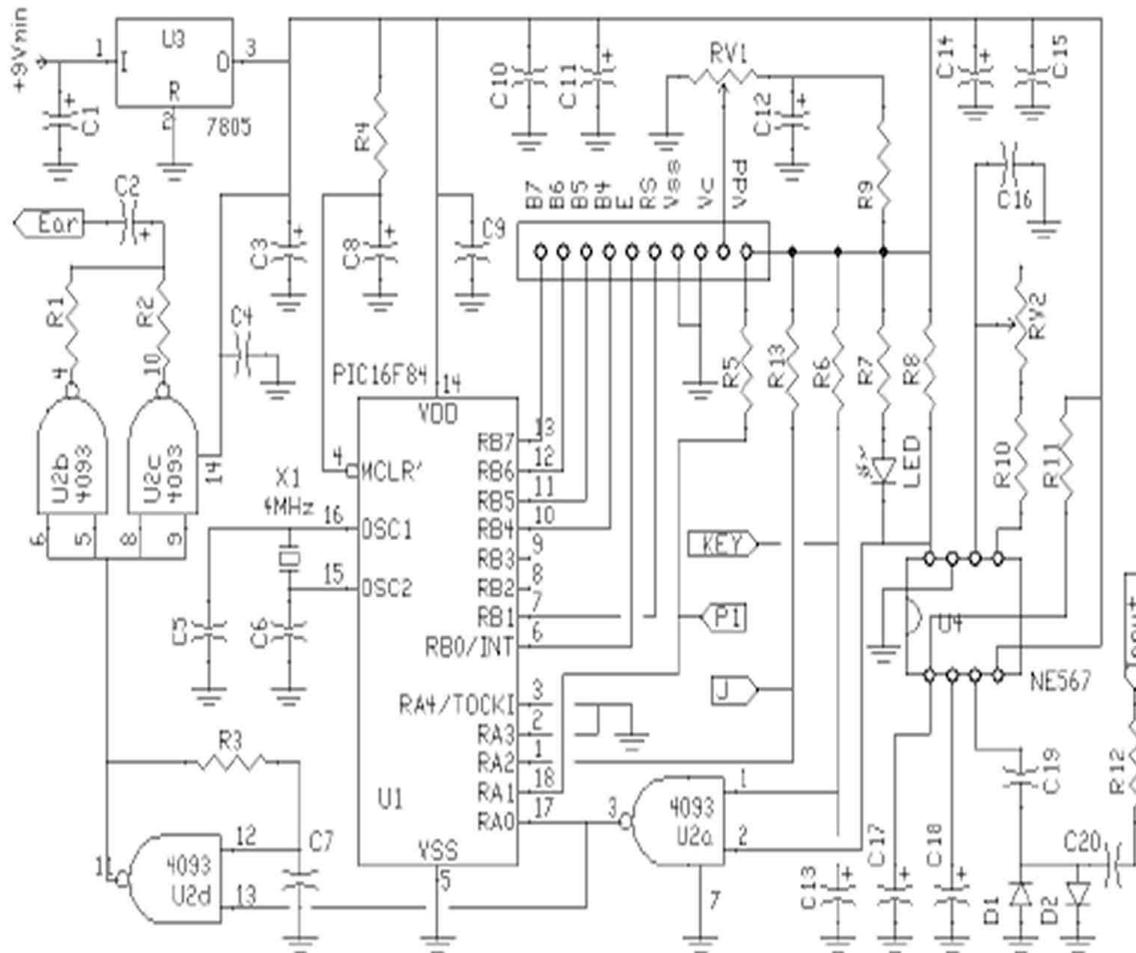
- Mean length of the dit/dash cycle
- Mean length of the inter-characters pause
- Mean length of the inter-words pause

A flow chart of the program (macro level) is listed below



Electrical Schematic

Electrical Schematic



R1 : 1.8 K Ω	R11 : 33 K Ω	C8 : 1 μ F	C18 : 0.5 μ F
R2 : 1.8 K Ω	R12 : 3.3 K Ω	C9 : 100 nF	C19 : 100 nF
R3 : 18 K Ω	R13 : 18 K Ω	C10 : 100 nF	C20 : 100 nF
R4 : 22 K Ω	C1 : 47 μ F - 25 V1	C11 : 220 μ F	U1 : PIC16F84
R5 : 18 K Ω	C2 : 4.7 μ F	C12 : 22 μ F	U2 : 4093 CMOS
R6 : 18 K Ω	C3 : 100 μ F	C13 : 1 μ F	U3 : 78L05
R7 : 820 Ω	C4 : 100 nF	C14 : 220 μ F	U4 : NE567
R8 : 10 K Ω	C5 : 82 pF	C15 : 100 nF	RV1-RV2 : 4.7 K Ω
R9 : 10 K Ω	C6 : 82 pF	C16 : 100 nF	D1-D2 : OA95 - AA118
R10 : 10 K Ω	C7 : 100 nF	C17 : 1.5 μ F	X1 : 4 MHz xtal

The schematic appears very simple, actually almost all of the functions are performed by the microprocessor software, while an NE567 tone decoder takes charge of processing the audio input signal. This IC contains a PLL circuit whose lock frequency may be adjusted between 700 and 1000 Hz by the RV2 trimmer.

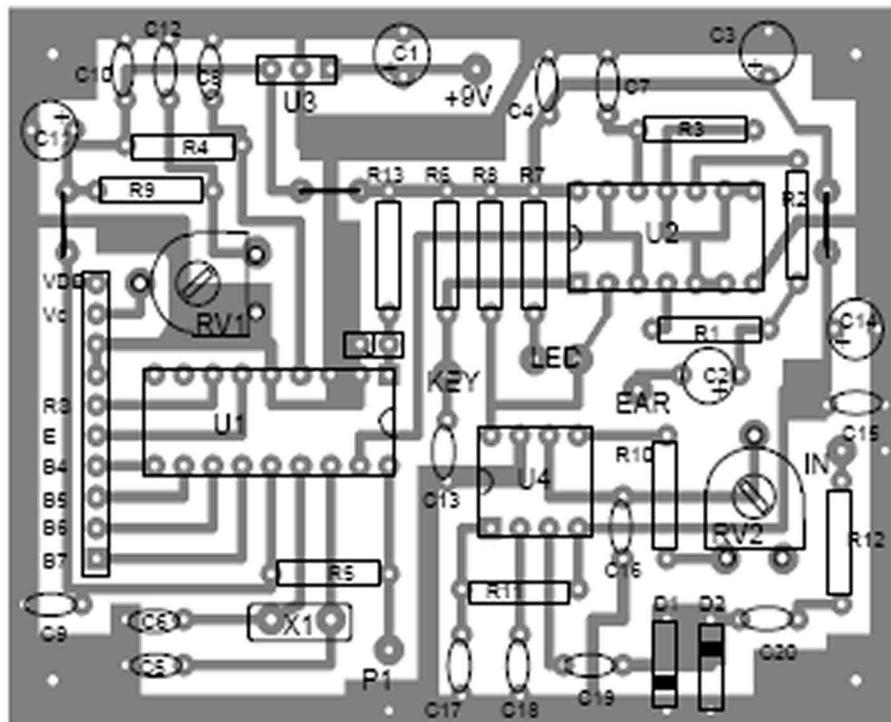
With the listed component values it is obtained a band width of about 100 Hz. The minimum accepted input signal amplitude is 100 mV pp and its time duration would be at least 20 mS. The PLL measured lock delay is about 10 mS.

A clipper is provided to limit the input signal amplitude, it is obtained by 2 germanium diodes (OA95, AA118, not critical).

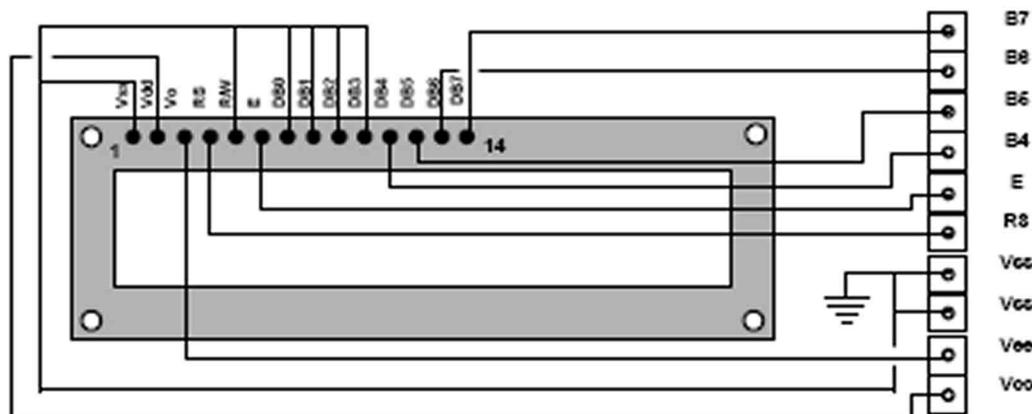
A LED is connected to the pin 8 of the PLL to show the correct frequency lock. The same pin 8 drives one gate (pin 2) of the CMOS trigger NAND 4093 whose output (pin 3) is connected both to the microprocessor PA0 gate and to a second CMOS gate (pin 13) working as an audio generator. The remaining two 4093 gates are used to implement a buffer capable of driving a medium impedance load (64 Ohm).

A 78L05 regulator supplies both the decoder module and the LCD display, the RV1 trimmer is used to adjust the display brightness. The only required tuning is an RV2 trimmer adjustment so as to obtain the best frequency lock using an input CW signal strong and clear from your receiver

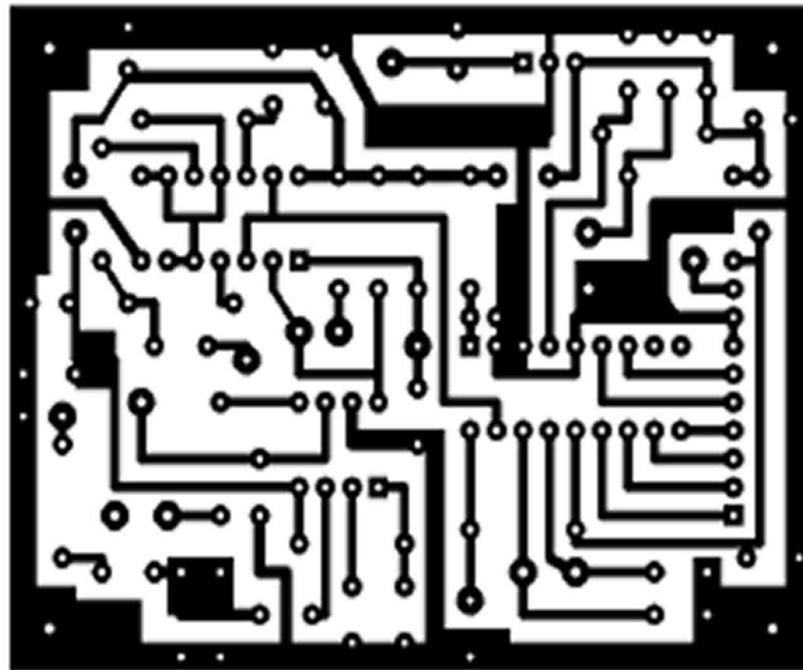
Component Layout



The whole circuit is mounted on a 60x80 mm PCB board. It is recommended to make use of small sized components (ceramic multilayers capacitors, low voltage electrolitics, ...) so as to make easier the assembling. The LCD display is connected by a 10 pole flat cable soldered to 2.54 mm standard connectors, as shown below



PCB board



The PIC16F84 development tool

You may find several commercial development tools for the PIC16F84 micro (see for example the Microchip Starter Kits). However if you are interested in a low cost solution, you can download from the Microchip WEB site

<http://www.microchip2.com/index.html>

the assembler software MPASM

<http://www.microchip.com/10/Tools/pTools/MPASM/index.htm>

and the simulator MPSIM

<http://www.microchip.com/10/Tools/Archive/index.htm>

together with the technical documentation. Regarding to the hardware programmer construction, it is easy to find many references on Internet (I'll be glad to provide some informations). You can

download a shareware version of the CIRCAD software from the Holophase WEB site

<http://www.holophase.com/>

Final notes

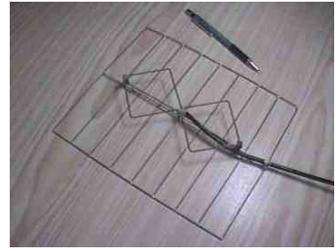
No particular difficulty should arise in the realization, neither in the finding of the components nor in the assembling of the decoder. If you are interested in obtaining more informations, a copy of the PIC software or the CIRCAD PCB files, you may contact me at my E-mail box :

ik3oil@arrl.net

Best 73s IK1OIL

A Double Quad Antenna for 1296 MHz By DL5NEG

This antenna is a medium gain directional antenna for mobile (portable) and base station use. I have built it many years ago for mobile operation to check out how good the signal of the ATV Relais DB0SCS is received in the villages around Schwabach (the QTH of the Relais). I found a similar type for 432 MHz in the literature and decided to calculate the dimensions for 1296 MHz. For the 432 MHz antenna a gain of more than 10dBd was mentioned. This seems reasonable for the size of the antenna. I was always satisfied with the antenna and a direct comparison to other antennas of a known gain showed that it really has to have a gain of about 10dB over a dipole.

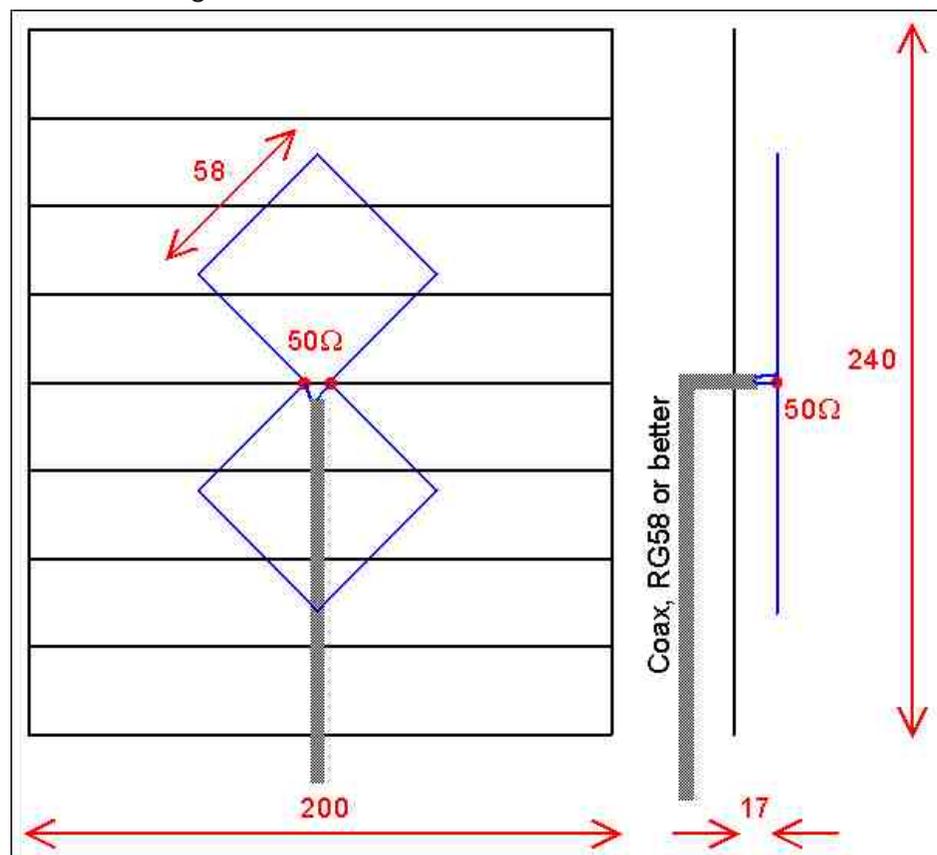


This antenna type has a number of advantages over a yagi antenna with the same gain:

- It is easy to build, the size of the driven element is not highly critical
- An optimal VSWR can be achieved by varying the distance to the reflector
- Due to the geometry the antenna can be handled more easily at mobile or portable operation
- Just like for a quad antenna for short wave, a balun is not absolutely necessary
- The antenna covers a wider frequency range than an average yagi

Now have a look at this plan. All sizes are in mm. The antenna is made of copper wire with 1mm diameter (not highly critical). I leave it to your fantasy how to fix the reflector to the driven element. (I soldered it together via two 1 Megaohms resistors and put a bunch of liquid plastic over it.) It is even ok to solder it together without insulation at the top and bottom of the driven element since these are the points of maximum current and zero voltage. But due to the fact that we are not using a balun, the current maximum is not exactly at these points so we would short circuit a little bit of the antenna signal.

73's DL5NEG



COMIC'S HAM

Have some fun



THE QSL OF THE MONTH

