HAM NEWS

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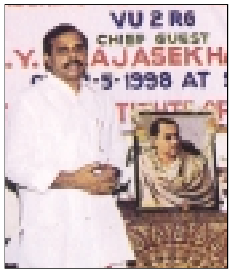
Hams from all over the World greets Dr. Manmohan Singh, Hon'ble Prime Minister, Mrs. Sonia Gandhi, VU2SON, Shri. Dayanidhi Maran, VU2DMK & other Leaders of Government of India and Government of Andhra Pradesh.

Dr. Manmohan Singh
Hon'ble Prime Minister of India

Shri Dayanidhi Maran, VU2DMK
Hon'ble Minister for Communication & Information Technology



Dr.Y.S.Rajasekhar Reddy,
Hon'ble Chief Minister of Andhra Pradesh

Three generations of National Leaders promoting Amateur Radio in the Country.

Mr. S.Suri, Founder, NIAR with Smt. Indira Gandhi
Former Prime Minister
(in a file photo)

Mr. S.Suri, Founder, NIAR with Shri Rajiv Gandhi, VU2RG
Former Prime Minister
(in a file photo)

Smt. Sonia Gandhi, VU2SON inagurating RG Amateur Radio Club with Mrs. Bharathi, Mr. Suri
(in a file photo)

NIAR G.C Members with Smt. Sonia Gandhi, VU2SON
(in a file photo)

Shri Rajiv Gandhi, VU2RG operating HAM Radio at Vijayawada during 1991 cyclone operation (in a file photo)

NIAR - PROJECT ACTIVITIES

- Awareness Program at NIAR was carried out on 1st May 2004 and subsequent training classes at NIAR HQ started. The strength of the students: 56. Timings 8 AM – 10 AM. ASOL Examination for this batch is scheduled on 14, 15th July 2004.

- Mr. S. Ram Mohan & Mr. S.B.Ram visited Orissa State (5th to 10th May 2004): and met with officials of several institutions of the Government and reputed technical institutions to explain about the Program and Promotion of Amateur Radio requesting their participation. Letters of request were received from OSDMA, Govt of Orissa & Ganesh Institute of Engineering & Technology Industrial Training Center (GIET-ITC), Bhubaneshwar and Biju Patnaik National Steel Institute, Puri started with the Awareness/training program on 1st June 2004. Accordingly the training program has started at Bhubaneswar / Puri.
- NIAR with support of GIAR and kind help from Mr.S.K.Nanda, IAS, Chairman, GIAR & Mr.E.Radhakrishna, IPS, VU3LRE, Vice-Chairman, P.C.Valera, VU2CPV, Secretary, GIAR conducted Awareness & Training programs at Ahmedabad and Bhuj in Gujarat.
- Mr. S.Ram Mohan & Mr. S.B.Ram visited Gujarat State (15th to 23rd May 2004): and met with officials of several institutions of the Government and reputed technical institutions to explain about the Program and Promotion of Amateur Radio requesting their participation. Awareness followed by training program started on 16.06.2004 at Gujarat Vidyapith. Similarly assurance was given by Govt. Polytechnic, Jamnagar. Awareness and training program started at Rotory Club, Bhuj on 18-06-2004.
- In response to our advertisement requesting quotations from Dealers/Agencies, 19 companies responded and submitted their quotations for various equipments & material. The purchase committee under the chairmanship of Dr. P.Sudhakar Rao met on 26th May at 11 A.M and opened the sealed quotations in the presence of the bidders. The purchase committee submitted its recommendations to the EVC & Director, NIAR after completion of evaluation process for placing purchase order. The same was approved by Governing Council, NIAR.

Mr.Suri, Chairman & Director met the MIT Officials and Home Ministry officials during third week of May and briefed them the progress made by NIAR. Subsequently a report was submitted to MIT on progress made by NIAR after receiving the funds.

On 3rd June & 11th June, 2004 condolence meetings were held at NIAR premises and G.C.Members & various prominent associates were present who paid tribute to Dr.Shrikant Jichkar, VU2SJA.

On 11th June, 2004, Governing Council meeting of NIAR was held under the chairmanship of Er.G.L.Rao, Secretary General, Federation of Engineering Institutions of South & Central Asia (FEISCA), Former President, Institution of Engineers (India) who is Vice-Chairman, NIAR.

Mr.S.Suri,VU2MY is unanimously elected as Chairman of NIAR by Governing Council Members.

THE WIRELESS DISPUTE

Investigations by an amateur science historian have led to evidence that suggests that the real inventor of the wireless is Jagdish Chandra Bose.

PALLAVA BAGLA

Almost a century after the Italian physicist Guglielmo Marconi sent the first wireless message across the Atlantic Ocean, the dispute about who actually invented the wireless has reached a critical stage. Early this year, a special issue of the proceedings of the New York-based Institute of Electronics and Electrical Engineers (IEEE), which marked the 100th anniversary of the diode and the 50th anniversary of the transistor, made out a definitive case for Sir Jagdish Chandra Bose, the Indian biologist and physicist. In a seminal paper presented at the Royal Society in London in 1899, Bose had announced the invention of a sensitive device that would go on to become the key to long-distance wireless communication

Probir Bondyopadhyay, a satellite and communications engineer at the Johnson Space Centre in Houston, United States, who is also an amateur science historian, is the man behind this publication. According to him, Marconi's claims that he enlisted the help of an Italian naval officer in developing the device, an iron-mercury-iron self-recovering coherer in the shape of a linear tube, were most likely a ruse to throw investigators off the scent. Marconi, according to his findings, used the iron-mercury-iron coherer with a telephone detector invented by Bose in 1898.

"He was like a honeybee collecting honey from different flowers," says Bondyopadhyay about Marconi's efforts to improve his wireless transmitter. "And he never gave credit to those who deserved it."

COURTESY: SCIENCE REPORTER

Sir J.C. Bose with his microwave receiver and coherer at the Royal Institute, London in 1897.

Ironically, Bondyopadhyay got involved in the wireless dispute at the request of Marconi's daughter, who was upset over media reports in the 1980s (including a 1984 article in *The New York Times*) that suggested that Marconi should have shared credit for the invention with Nicoli Tesla and others. "She asked me to look into the matter," says Bondyopadhyay about G. Marconi Braga, who died last year.

Bondyopadhyay's investigations also led him to Bose's role in advancing the technology. "I'm a historian. I find the facts and publish the facts... By clarifying this thing, all I am trying to do is to set the record straight."

Clearly, Marconi's contribution cannot be overlooked. An apparatus for short-distance wireless communication had been invented, but its utility was limited by the difficulty to transmit messages across long distances. On December 12, 1901, Marconi showed that he had solved the problem when he sent the first wireless message across the Atlantic Ocean. The demonstration marked the first major use of the solid state diode detector, and it ushered in the modern era of electronic communications. It also triggered a century-long debate about who deserves credit for developing the receiving device, then called the Italian navy coherer.

As far as the technicalities of this scientific development are concerned, it is significant that in the early days of radiotelegraphy, there were no amplifiers. Reception of messages therefore depended on the sensitivity of the receiver. While both Bose and Marconi had demonstrated radio communication up to a distance of about 1.5 miles (2.5 km) in 1894, it was long-distance communication that mattered more. And both of them knew this would happen only if there was a highly sensitive receiver.

This, as history has it, came from the single room laboratory of the Indian scientist in Calcutta. He published a paper titled, 'On a Self-Recovering Coherer and the Study of the Cohering Action of Different Metals' in the April 1899 issue of the *Proceedings of the Royal Society* wherein he described the use of the iron-mercury coherer in detecting radio waves, then called "electric radiation".

COURTESY: BRITISH INFORMATION SERVICE

Guglielmo Marconi with his first wireless apparatus on arrival in London in 1896.

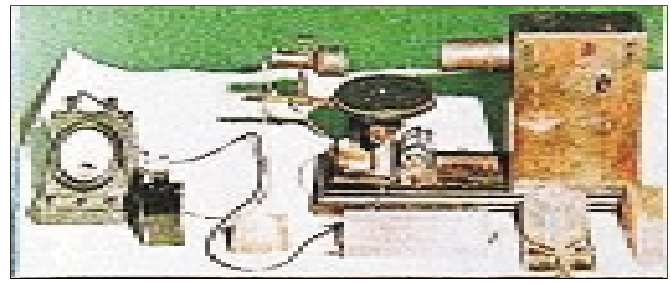
Bose wrote: "For very delicate adjustments of pressure I used in some of the following experiments a U-tube filled with mercury, with a plunger in one of the limbs; various substances were adjusted to touch barely the mercury in the other limb...I then interposed a telephone in the circuit; each time a flash of radiation fell on the receiver, the telephone sounded." Bose concluded after a series of experiments that "there can be no doubt that the action was entirely due to electric radiation".

IN Marconi's own lifetime, a controversy had erupted about the origin of the coherer. The editor of the technical magazine *L'Elettricista* had pointed out that it was an Italian Navy signalman, P. Castelli who had invented the mercury coherer. Meanwhile, Marconi said that the receiving device was gifted to him by the Italian Navy through his childhood friend Luigi Solari, a lieutenant in the Navy.

Experts admit that in all his writings and speeches Marconi never disclosed the true nature of this highly sensitive detection device, and this fact has been highlighted by Bondyopadhyay. In fact, in 1902, Solari admitted in a letter to the editor published in *The Times*, London, that this idea was suggested to him "in some English publication, which I found myself unable to trace". Bondyopadhyay says: "Marconi raised clouds of dust to confuse the real situation to distract his antagonists." The genius behind the invention was that of Bose, and Marconi's claims were "eminently fraudulent", says Bondyopadhyay.

Interestingly, the British magazine *The Electrician* wrote about Bose's wireless receivers in its December 1895 issue: "His sensitive detector of electromagnetic radiation, perfectly prompt in its self-recovery, should serve to revolutionise the existing methods of telegraphy...The coherer devised by Prof. Bose would appear to leave little to be desired, and it is certainly more likely to withstand the thousand and one shocks at sea than any of the forms hitherto brought about... Should Professor Bose succeed in perfecting and patenting his coherer, we may in time see the whole system of coast lighting throughout the navigable world revolutionised by the discoveries made by a Bengali scientist working single-handed..."

COURTESY: SCIENCE REPORTER



Bose's original microwave receiver.

IF all this was so patently obvious, why was the controversy not nipped in the bud? Bondyopadhyay explains: "It is embarrassingly obvious that the British learned men of the day... never discovered Bose's work, despite it being so prominently displayed in a prestigious publication of the British empire. It is clear that they never read this esteemed publication or did not connect Bose's work with Marconi's use of the device." Bondyopadhyay's findings also point an accusing finger at Bose's own scientific colleagues for not defending Bose's, and India's, interests.

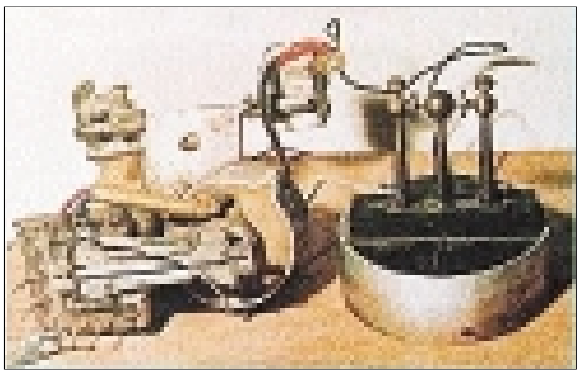
At the government-run Bose Institute in Calcutta, which was founded by Bose in 1917, director Prasanta Kumar Ray is a happy man. The biochemist applauded the IEEE for its findings and said: "Bose should have jointly received the 1909 Nobel Prize with Marconi for the discovery of wireless telegraphy. A grave injustice has been done." While Ray agrees that no one can deny that it was Marconi who used and utilised this discovery for the larger benefit of mankind, he asserts that it was Bose who actually made the invention.

Bondyopadhyay said: "Marconi, through his careful choice of words, caused deliberate confusions and, using clear diversionary tactics, shifted attention to the works of other scientists rather than acknowledging that the receiver he used to detect the trans-Atlantic signal was none other than Bose's receiver

that he had trivially modified from being a U-tube to a linear tube." Presenting new evidence, Bondyopadhyay presents a blow-by-blow account of the happenings in historical timeline in a 27-page paper titled 'Sir J.C Bose's Diode Detector Received Marconi's First Transatlantic Wireless Signal of December 1901 (The 'Italian Navy Coherer' Scandal Revisited)', and tries to establish the true origins of the detector device. "Marconi did not disclose immediately what he used in receiving his message. There was a bad motive involved, I suspect, but I don't come down too hard on him for that," he writes.

One mystery that Bondyopadhyay does not address is the disappearance of Bose's notebooks during his 1899 visit to London to present his paper to the Royal Society. "I don't deal with that," he says about speculation that Marconi was somehow involved, or at least benefited from the information they contained. "Whether he lost it or it was stolen, I don't know, because I have tried to stick to facts."

COURTESY: SCIENCE REPORTER



Bose's microwave transmitter.

Professor Umberto Colombo, a chemical engineer and former Science and Technology Minister of Italy and currently a member of the Italian National Council of Economy and Labour, says: "I am not surprised about this revelation against Marconi as there have always been rumblings about Marconi. If evidence shows that others should also get credit for the invention, it should be certainly highlighted. But, these new revelations will certainly not undermine Marconi's solid position in the history of science and in the commercialisation of wireless telegraphy." And yet, as Prasanta Kumar Ray of the Bose Institute muses, the loss of a Nobel Prize might never be compensated.

Source: Front Line (www.frontlineonnet.com/fl1506/15060810.htm)
(Vol 15 No. 6 Mar 21 - Apr 3, 1998)

3rd ANNIVERSARY OF JEEVANTATVA YOGA SAMSTHA AT N.I.A.R HYDERABAD

Mr. S.Suri speaking at the 3rd Anniversary meeting of Jeevantatva Yoga Samstha. Shri Mohan Kanda, I.A.S Chief Secretary, Government of Andhra Pradesh was the Chief Guest of the program. Dr. Padmaja Prasad, Consultant Nutritionist and other dignitaries on the dias.

The Jeevantatva Yoga Samstha , an offshoot of a very ancient traditional yoga system pioneered by Shri Yogeshwar Shri Ramlal Mahaprabhuji of the Himalayas and particularly in the present Uttaranchal celebrated its 3rd anniversary in the premises of N.I.A.R Hyderabad on Sunday, 16May 2004.

The Anniversary was punctuated with a seminar on yoga in which expert yogacharyas of the twin cities participated and deliberated upon the subjects-patanjalli yoga by Dr.P.Sudarshan Reddy of Malakpet, Kunadalini yoga by Mr.C.Pratapa Reddy of Baglingampalli, Practical yoga in daily life by Mr.P.Ravi Kishore, President, twin cities yoga forum, yoga teacher training by Dr.C.V.Rao of Kapil Maharshi Institute of Research for resources, Kriya yoga and deleterious effects of rice eating Dr.Balaiah Kovur of Sadasiva Brahmendra Yoga Research Center, Padmaraonagar, Secunderabad . Dr.P.G.Krishna Murthy, Director, Jeevantatva Yoga Samstha acted as a moderator and traced to the origin of the tradition of the system he has been propounding and propagating.

In the afternoon session there was a light vocal delightful recital by Kumari Soumya and Kumari Ramya, Varanasi sisters of renown followed by tips on nutrition and health care by consultant nutritionist Dr.Padmaja Prasad. Soon after that there was a demonstration of 'shat kriyas' by Dr.Balaiah Kovur and Asanas by the students of Jeevantatva yoga samstha-Mallesh, Shobha, Chandra, Fathima.

In the public meeting held in the evening, Chief Secretary, Government of Andhra Pradesh, Mr.Mohan Kanda, IAS., participated as the chief guest and stressed the need for a healthy society through regular and balanced practice of yoga fir proper coordination of mind –body and soul. The other speakers included Dr.B.N.Prasad, Orthopedic Surgeon, Care Institute of Medical Sciences, BGS. Rao, Deputy Director, Doordarshan Kendra Hyderabad, and Mr. S. Suri, EVC & Director, NIAR.

Dwelt upon the benefits of Yoga on one hand and touched upon the need for infrastructral facilities for a full fledged yoga center of the samstha for community service in which he said allotment of a suitable site for the purpose was the priority. He got a commitment from the Chief Secretary in this regard. Mr.A.R.Raju, President, Jeevantatva yoga samstha presided and Dr. P.G.Krishna Murthy Director of Yoga Samstha briefly outlined the historic origin of the system of yoga some 125years ago in the North of India.

BITX20 - A Bidirectional SSB transceiver

- By Ashhar Farhan

An easy to build 6 watts SSB transceiver for 14MHz

BITX is an easily assembled transceiver for the beginner with very clean performance. Using ordinary electronic components and improvising where specific components like toroids are not available, It has a minimum number of coils to be wound. All alignment is non-critical and easily achieved even without sophisticated equipment. The entire instructions to assemble the rig are given here along with relevant theory.

The Indian hams have often been handicapped by a lack of low cost equipment to get them on air. A mono-band, bidirectional design using ordinary NPN transistors was developed to cater to this demand. The design can be adapted to any particular ham band by changing the RF section coils and capacitors and the VFO frequency.

BITX evolved over one year from the excellent S7C receiver described in the new ARRL book 'Experimental Methods in RF Design' (an ARRLpublication) into a bi-directional transceiver. Several hams across the globe contributed to its design. A series of emails were exchanged with OM Wes Hayward (W7ZOI) during the evolution of this design. His contributions have been invaluable. He urged me to strive for higher performance from the simple design. The resultant rig has sensitive receiver capable of strong signal handling, a stable and clean transmitter capable of enough power to make contacts across the World.

All the parts used in BITX are ordinary electronic spares components. Instead of expensive and hard-to-get toroids, we have used ordinary tap washers. Broad-band transformers have used TV balun cores. The entire transceiver can be assembled in India for less than Rs.300. I have designed a single side PCB with large tracks that can be easily etched at home or by any PCB shop. They are also available from OM Paddy, (VU2PEP, pepindia@yahoo.com).

For those who don't read long articles ...

There are a couple of things you should know before you start assembling the circuit:

- The same amplifier block is used throughout. But the emiiter resistors vary in some of the places. Double check the values. If you swap values, the circuit won't stop working. It will work terribly. That might be a little difficult to diagnose in the end. Check the emitter values and the resistors that go between the base and collector.
- The receiving IF amplifier between the filter and the product detector is coupled to the product detector using a 100pf (not 0.1uf).
- The crystal filter worked for me, I used crystals from the local market marked as KDS. These are the cheapest and they work with the capacitor values given in the filter. Your crystals might require a different set of capacitors. Try the values given here, if you find the bandwidth too narrow, decrease the capacitances, if you find it too open then increase the capacitances.
- The microphone is directly coupled to the amplifier as my headset microphone needs 5V bias. If your microphone works without bias, then insert a 1uf in series with the microphone.
- The pictures show my prototype on two boards. Don't do that, split up the VFO into a separate box.
- The pre-driver is built onto the main board. The driver and the PA are on a separate board. Keep the same layout to keep the PA stable.
- There is a 50uf on the power line soldered near the BFO, don't forget it. It cleans up the audio noise which would otherwise get into the receiver.
- On the PCB, there are jumpers between T lines and R lines across the ladder filter. There is a jumper from the BFO supply to the VFO supply.

Development Notes

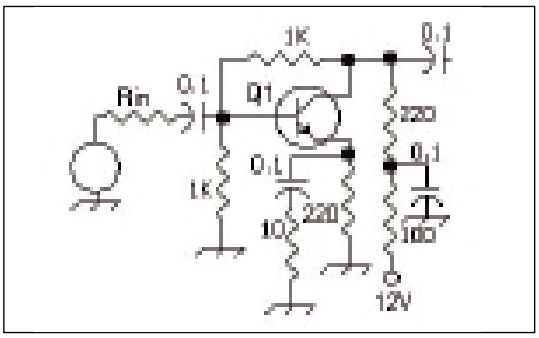
Almost all modes of radio communications share a natural principle that the receivers and transmitters operate using the same line-up of circuit blocks except that the signal direction is reversed. The CW direct conversion transceiver is the simplest illustration of this principle. A more complex example is the bidirectional SSB transceiver.

Bi-directional SSB transceivers have been quite common in amateur literature. A transceiver was described in the ARRL SSB Handbook using bipolar transistors. W7UDM's design of bidirectional amplifier (as the basis of bidirectional transceiver) is referred to by Hayward and DeMaw in their book Solid State Design. The bidirectional circuitry is often complex and not approachable by the experimenter with modest capability (like me).

The broad band bi-directional amplifier

My current interest in bidirectional transceivers arose after looking at an RC coupled bidirectional amplifier in the book Experimental Methods in RF Design (p. 6.61). An easily analyzed circuit that was simple and robust was required. It began its life as an ordinary broad-band amplifier:

In any bipolar transistor, the current flowing from



the collector to emitter is a multiple of the current flowing from the base to the emitter. Thus, if there is a small change in the current flowing into the base, there is a bigger change in the current flowing into the collector. What follows is a highly simplified explanation of working of the above amplifier.

In the above circuit, imagine that a small RF signal is applied through Rin to the base of Q1. Also imagine that the Rf voltage is swinging up. The transistor will accordingly amplify and increase collector current causing more current to flow through the Rl (220 ohms) collector load. This will in turn drop the voltage at the collector. The drop in voltage across the collector will also result in a drop at the base (base voltage is a fraction of the collector voltage due to the way the base is biased). This circuit will finally find balance when the increase in base current flowing from Rin is balanced by the decrease in base current due to the voltage drop across Rl. In effect the RF current entering from Rin flows out through the feedback resistance (Rf). The impedance seen at the base is effectively very low and the signal source will see an approximate input impedance of Rin.

Thus, Vin/Rin = Vout/Rf (Eq.1)

Another factor to consider is that that emitter is not at ground. At radio frequencies, it looks like there is a 10 ohms resistor between the emitter and the ground. Thus, when the base voltage swings, the emitter will follow it. The AC voltage variations across the Re (10 ohms) will be more or less the same as that across the base. The current flowing into the emitter will mostly consist of collector current (and very little base current). Thus, if the emitter current almost equals collector current,

Ie = Vin / Re = Vout / Rl (Eq. 2)

We can combine these two equations to arrive at:

Vout / Vin = Rf / Rin = Rl / Re. (Eq. 3)

This is an important equation. It means several things. Especially if you just consider this part:

Rf / Rin = Rl / Re. (Eq 4)

Let's look at some interesting things:

1. The voltage gain, and the input and output impedances are all related to resistor values and do not depend upon individual transistor characteristics. We only assume that the transistor gain is sufficiently high throughout the frequencies of our interest. The precise value of the transistor characteristics will only limit the upper frequency of usable bandwidth of such an amplifier. This is a useful property and it means that we can substitute one transistor for another.

2. The power gain is not a function of a particular transistor type. We use much lower gain than possible if the transistor was running flat out. But the gain is controlled at all frequencies for this amplifier. This means that this amplifier will be

unconditionally stable (it wont exhibit unusual gain at difference frequencies).

3. You can restate the eq 3 as Rf * Re = Rl * Rin . That would mean that for a given fixed value of Rf and Re, the output impedance and input impedances are interdependent. Increasing one decreases the other and vice versa! For instance, in figure 1, Rf = 1000, Re = 10, if we have Rin of 50 ohms, the output impedance will be (1000 * 10)/50 = 200 ohms. Conversely, if we have an Rin of 200 ohms, the output impedance will be 50 ohms!

In order to make bidirectional amplifiers, we strap two such amplifiers together, back to back. By applying power to either of amplifiers, we can control the direction of amplification. This is the topology used in the signal chain of this transceiver. The diodes in the collectors prevent the switched-off transistor's collector resistor (220 ohms) from loading the input of the other transistor. A close look will reveal that the AC feedback resistance consists of two 2.2K resistors in parallel, bringing the effective feedback resistance to 1.1K. Thus, the above analysis holds true for all the three stages of bidirectional amplification.

Diode mixers

The diode mixers are inherently broadband and bidirectional in nature. This is good and bad. It is good because the design is non-critical and putting 8 turns or 20 turns on the mixer transformer will not make much of a difference to the performance except at the edges of the entire spectrum of operation.

The badness is a little tougher to explain. Imagine that the output of a hypothetical mixer is being fed to the next stage that is not properly tuned to the output frequency. In such a case, the output of the mixer cannot be transferred to the next stage and it remains in the mixer. Ordinarily, if the mixer was a FET or a bipolar device, it usually just heats up the output coils. In case of diode ring mixers, you should remember that these devices are capable of taking input and outputs from any port (and these inputs and outputs can be from a large piece of HF spectrum), hence the mixer output at non-IF frequencies stays back in the mixer and mixes up once more creating a terrible mess in terms of generating whistles, weird signals and distorting the original signal by stamping all over it.

A simple LC band pass filter that immediately follows the diode ring mixer will do a good job only at the frequencies it is tuned to. At other frequencies, it will offer reactive impedance that can cause the above mentioned problems. It is requirement that the diode mixer's inputs and outputs see the required 50 ohms termination at all the frequencies. In other words, they require proper broadband termination. Using broad-band amplifiers is a good and modest way of ensuring that. A diplexer and a hybrid coupling network is a better way, but it would be too complex for this design.

Circuit Description

Although simple, every effort was made to coax as much performance as was possible given the limitations of keeping the circuit simple and affordable.

The Receiver

The RF front-end uses a triple band-pass filter for strong image and IF rejection. The three poles of filtering are quite adequate and the out-of-band response of the receiver is only limited by external shielding and stray pickups.

An RF amplifier follows the RF band pass filter (Q1) biased for modest current. More current would have required a costlier transistor. There is 8mAs through the RF amplifier and the post-mix amplifiers to keep the signal handling capacity of the circuit above average. The Post-mix amplifier (Q2) does the job of keeping the crystal filter as well as the diode mixer properly terminated. The crispness of the receiver is more due to this stage than anything else. An improper post-mix amplifier easily degrades the crystal filter's shape and introduces spurious signals and whistles from the diode mixer. Note that the mixer is singly balanced to null out the VFO component and not the RF port and in the absence of proper pre-selection, 10MHz signals can easily break into the IF strip.

The VFO is fed via a broad-band amplifier into the singly balanced mixer. We used the simplest VFO possible with a two-knob tuning mechanism. It works really well and for those (like me) used to quick tuning, it offers best of both worlds, slow tuning through the varactor and fast tuning through the capacitor without any slow motion drive. Getting a slow motion drive is an increasingly difficult problem and this is an 'electrical' substitute for slow motion drives.

(Cont... Page No. 13)

A Tribute to
Dr. Shrikant Jichkar

(14th September, 1954 - 2nd June, 2004)

Dr Shrikant Jichkar: A scholar-politician

Anand Bhisey in Nagpur | June 03, 2004 17:33 IST Death finally sneaked up on him when he expected it the least. Dr Shrikant Jichkar had defied death when he spiritedly fought off cancer. However, it seems that death had retreated only to stalk him silently since. On Wednesday, it **struck** in the most devastating and merciless manner.

Dr. Jichkar died of grievous injuries sustained after his car slammed into an oncoming bus at Dhamana Shivar, about 40 kilometres from Nagpur.

A man with a **multifaceted personality**, Dr Jichkar was interested in and had a deep study of several subjects. Besides English, Hindi and Marathi, he had command over Sanskrit. Born on

September 14, 1954, in village Ajangaon (Jichkar) in Katol Tehsil of Nagpur district, Dr Jichkar completed his medical education from Government Medical College in Nagpur, obtaining his MBBS and MD degrees.

Although he was selected for the Indian Police Service (IPS) in 1978 and for the Indian Administrative Service (IAS) in 1980, Dr Jichkar chose to make a career in politics. In fact, his innings had begun in 1977 itself when he was elected the president of Nagpur University Students Council (NUSC). In 1980, he took the plunge into politics when he successfully contested the election to the Maharashtra Legislative Assembly from Katol constituency.

Dr Jichkar was minister of state in the Maharashtra Cabinet in 1982-83 and again from 1986 to 1988. In all, he held 14 portfolios at various times, among them being finance and home.

He was a legislator from 1980 to 1992, being a member of both the legislative assembly as well as the legislative council. He was a member of the Rajya Sabha from 1992 to 1998.

He had the honour of being appointed the first Vice Chancellor of the Kavi Kulguru Kalidas Sanskrit University that was established at Ramtek in Nagpur district in 1993. In fact, he had a major share in the establishment of the university.

Dr Jichkar had also established a unique record by obtaining nine MA degrees in various subjects, including Public Administration, Sanskrit, Sociology, English Literature, Political Science, Economics and History. This was in addition to degrees in journalism, business administration and law.

While he had three books to his credit, he had a collection of 52,000 rare books in his personal library. A staunch opponent of the demand for statehood for Vidarbha, Dr Jichkar had written a book on the finances of the region to demonstrate that the state would be unviable.

His annual lecture analysing the Union Budget was hugely popular. Thousands would throng the auditorium to listen to his insights into the budget proposals.

Dr Jichkar had a deep knowledge of Indian culture and Hindu rites and rituals. Among the numerous subjects in which Dr Jichkar had an interest in was astrology. He could 'read' a horoscope, including his own. He could analyse the movement of planets in a horoscope down to the last detail.

During an interview with this correspondent at his residence several years ago, the conversation turned to astrology. Dr Jichkar consulted an elaborate chart that he had prepared himself and predicted that the interview was taking place at the right time. He said that in another half an hour, the planetary positions would change and he would have been in a grouchy mood.

But the scholar-politician could not stop death from sneaking up to him.

Shrikant Jichkar -- A gentleman politician

June 03, 2004 09:59 IST

Former Congress Rajya Sabha member, Dr Shrikant Jichkar, who died in a road accident near Kondhali in Nagpur district of Maharashtra on Wednesday, was one of the most qualified and gentle politicians in the state.

Born on September 14, 1954 in a farmer's family in Aajangaon near Katol in Nagpur district, Jichkar was an MLA from 1980 to 1992. Between 1982-83 and 1987-88 he held 14 portfolios in the state government.

Jichkar lost to the Shiv Sena's Subodh Mohite in Ramtek in the last Lok Sabha election.

He was first elected to the Maharashtra assembly in 1980 from the Katol-Narkhed constituency. A student of St Francis Desales High School, Jichkar obtained a degree in medicine from the Government Medical College and Hospital.

He did his Master of Arts in 10 subjects - Public Administration, Sociology, Economics, Sanskrit, History, English Literature, Philosophy, Political Science, Ancient Indian History, Culture and Archaeology.

An academician to the core, Jichkar also had degrees in journalism and law and a D Litt in Sanskrit.

He passed the Indian Police Service exam in 1978 and then qualified for the Indian Administrative Service in 1980 before plunging into politics.

He was appointed chancellor of Kavi Kulguru Kalidas Sanskrit University in 1993.

Jichkar had worked closely with Chief Minister Sushilkumar Shinde during the latter's tenure as the state's finance minister in an earlier Congress government.

He was chairman of the Nava Samaj Ltd, publishers of Nagpur Times and Nagpur Patrika newspapers.

Source www.rediff.com

A Tribute to
Dr. Shrikant Jichkar

(14th September, 1954 - 2nd June, 2004)

PARTICIPATION WITH NIAR

NIAR Team met the President of India, Bharat Ratna, Dr. A.P.J. Abdul Kalam on 26-08-2003 at Rastrapathi Bhavan, New Delhi with Chairman, Dr. Shrikant Jichkar seen 3rd from left

R to L: Shri. Anantaramu, Collector Mahaboobnagar, Dr. Shrikant Jichkar, VU2SJA, Shri. N. Vittal, VU2NVO, Former Central Vigilance Commissioner, Shri. R. Ramachandrayya, M.P.(R.S.), Shri. T. Hanuman Chowdary, Advisor to Govt. of A.P., Dr. T. Rangaiah, F.R.C.S., during a Public function at Mahaboobnagar, in July 1999

Mr. Peter Kirby, General Manager, RSGB Presenting a memento to Dr. Shrikant Jichkar, VU2SJA Chairman NIAR, at Dayton Hamvention - 2000, USA, Mr. S. Suri VU2MY to the right.

Dr. Shrikant Jichkar with Governing Council members of NIAR

The team of "World Radio" a very popular Ham Magazine honours NIAR delegates at their stall at Dayton Hamvention 2000, USA.

L to R: Gp.Capt. Phatak, VU2ZV, Dr. Shrikant Jichkar, VU2SJA, Mr. S. Suri, VU2MY, Mr. S.B. Ram, VU2LIC during Hamfest India - 2001 at Nagpur

A Tribute to
Dr. Shrikant Jichkar

(14th September, 1954 - 2nd June, 2004)

SHRIKANT JICHKAR KILLED IN ROAD ACCIDENT

June 02, 2004 20:14 IST

Last Updated: June 02, 2004 21:58 IST

Former Congress Rajya Sabha Member of Parliament Dr Shrikant Jichkar was killed when his car collided with a bus on Wednesday evening near Kondhali, about 60 kilometres from Nagpur, family sources said.

He along with his relative Dr Shriram Dhawad and driver was returning to city from his farmhouse on Amravati road when their car collided with a Maharashtra State Road Transport Corporation (MSRTC) bus, the sources said.

Jichkar sustained multiple injuries and was rushed to a private nursing home where he succumbed to his wounds.

On receiving information, his family members and close friends, including MPCC general secretary Avinash Pande rushed to the hospital.

Jichkar (47), who had contested the just-concluded Lok Sabha election from Ramtek constituency, was a member of Rajya Sabha from 1992 to 1998.

Maharshtra BJP unit chief Gopinath Munde condoled the demise of Jichkar. "Despite holding several degrees, Jichkar was a humble person. He was a perfect blend of studious social worker and a politician," Munde said in his condolence message in Mumbai.

Jichkar had recently agreed to work on 'Marathi Vishwakosh', Munde noted. Jichkar is survived by his wife Rajashree, daughter Maitrayee and son Yagyawalkya. His mortal remains will be cremated on Thursday, sources said. *(source:www.rediff.com)*

Shri G.L.Rao, Vice-Chairman, NIAR paying tributes to Dr. Shrikant Jichkar at the condolence meeting at NIAR on 11th June 2004.

Shri G.Valliswar, Senior Journalist & CPRO to CM Govt. of AP speaking at the condolence meeting at NIAR on 11th June 2004.

CONDOLENCE MESSAGE

We the Governing Council members of NIAR, Staff of NIAR and on behalf of Ham fraternity express our deep regrets and sympathy to the family of Dr. Shrikant Jichkar on the on his sudden and premature death.

Dr. Shrikant Jichkar as the Chairman of National Institute of Amateur Radio, Hyderabad has been a great motivating force and a guide for our organization. His dynamic leadership instilled several memorable instances that shall remain in our hearts for a life time.

The sudden demise of Dr. Shrikant Jichkar is not only felt by members of NIAR but the entire nation which has lost a great leader and visionary representing youth with his exceptional talent.

We wish the departed soul a heavenly adobe.

-NIAR G.C. Members

A Tribute to
Dr. Shrikant Jichkar

(14th September, 1954 - 2nd June, 2004)

Condolence Messages from HAM Fraternity

From : Bascombe J. Wilson, WØAIR
CEM for the DERA Board of Directors
The Disaster Preparedness and
Emergency Response Association, International, USA.

Dear Mr. Suri and Friends at NIAR,

Words cannot begin to express my profound sadness at the passing of Dr. Shrikant Jichkar.

The entire DERA Board of Directors joins me in extending our most sincere condolences to VU2SJA's family and those of you who were his close and dear friends.

VU2SJA is truly one who will be forever missed, but never forgotten by those whose lives he touched.

He made a wonderful, lasting impression on those of us in DERA fortunate enough to have gotten to know him, and his untimely passing is a terrible loss to the international amateur community.

May we honor the memory of Dr. Shrikant Jichkar by continuing his labors in the fields of amateur radio, science and humanitarian service.

With respect at this time of your loss,

- Jay

"A GENTLE POLITICIAN" PASSES...
DR. SHRIKANT JICHKAR, VU2SJA SK

The world has lost one of its foremost and unique amateur radio leaders... Shrikant VU2SJA, at age 49. He led a distinguished political and academic career serving as a Member of Parliament, Minister of State and university Chancellor. Shrikant is being called a "Gentle Politician" by the Indian media. That is most appropriate for a ham that has lived by the spirit of the Amateurs Code.

He was also scholarly...spoke 18 languages, authored three books and had a personal library of 15,000+ books. The press reported that he has the Guinness World Record for a politician holding university degrees... 24!

Shrikant had been a strong, steady guiding force for the rapidly growing Indian radio amateur population. Many of his achievements can be found in the NIAR Annual Report reprinted in the November WRC Update. We are certain he will serve as a role model and that his contributions to India and its ham community will be long remembered.

VU2SJA... God Bless

Larry Lazar KS4NB, President
Wellington Amateur Radio Club, U.S.A.

Dr.Jichkar was an extraordinary young man whom the country has lost in an unfortunate accident. His accomplishments in every field of activity were well known throughout this country and elsewhere. NIAR had the good fortune of his guidance and council were a number of years and actively participated in many of its programs unlike the leaders of his caliber. The entire Amateur Radio Community in this country will be missing his genial presence and councils.

Padmasri Dr.N.Tata Rao
Former Chairman, A.P.S.E.B

From : Mr. R. Ramachandran, VU2RCR, President
Amateur Radio Society of India

Very sorry to hear about the un timely death of Dr.Shrikant Jichkar, VU2SJA . Our Heart felt condolences to the bereaved family.

Chandru, VU2RCR

From : Mr. K. George, VU2DIG, President
Kerala Amateur Radio League

Dear Mr Suri,

I myself and all the executive members of KARL express their deep condolences on the sad demise of Dr: Srikant Jichikar, VU2SJA who was a leader and a well wisher of Indian Amateur movement . We share the sorrow of his family and NIAR in his demise.

May his soul rest in peace.

K. George, VU2DIG

From : Mr. Sandeep, VU3SXE, Secretary
Bangalore Amateur Radio Club

Very sorry to hear of this tragedy, Condolences from all at BARC, May his soul rest in peace.

Secretary, BARC.

From : Mr. Mani, VU2WMY
Secretary and Station-in-charge.
Upagrah Amateur Radio Club,VU2URC
ISRO Satellite Centre, Bangalore

We all at Upagrah Amateur Radio Club VU2URC,mourn the death of Dr.Shrikanth and express our deep and heart felt condolences to the bereaved family.May his

Soul rest in Peace.

Mani, VU2WMY

From : Mr. Dinyar, VU2UTZ and Ahmedabad 2 mt. net.

Dear Hams,

Pl accept our condonlances on the sad demise of Dr. Shrikant, a loss to the hamworld, may his soul rest in peace...

warm regards,

Dinyar, VU2UTZ

and many more messages received...

(Cont from.... Page No. 8)

A word about the VFO: depending upon component availability, skills and preferences, everybody has a favourite VFO circuit. Feel free to use what you have. Just keep the output of the collector of Q7 to less than 1.5 volts (it will appear clipped on the oscilloscope trace, that is okay). For 20 Meters operation, you will need a VFO that covers 4 to 4.4MHz. The given VFO has low noise though it does drift a little, but I have had no problems with ordinary QSOs. After 10 minutes of warm up, the drift is not noticeable, even on PSK31 QSOs.

A Hartley oscillator using a FET like BFW10 or U310 would work much better. You can substitute this VFO with any other design that you might want to use. If you are using the PCB layout, then skip the VFO on board if you want to use a different VFO and build it externally in a separate box.

The simple IF amplifier has a fixed gain. Earlier it was noted that IF amp was contributing noise at audio frequencies. It was later traced to noise from the power supply and placing a 50uf on the transceiver power line has cured it. The IF amplifier has a 100pf output coupling to provide roll-off at audio frequencies.

The BFO is a plain RC coupled crystal oscillator with an emitter follower. The emitter follower has been biased to 6V to prevent limiting.

The detector also doubles up as the modulator during transmit mode; hence it is properly terminated with an attenuator pad. It has no impact on the overall noise figure as there is enough gain before the detector. The audio pre-amplifier is a single stage audio amplifier. The 220pf capacitor across the base and collector provides for low frequency response.

The receiver does not have an AGC. This is not a major short-coming. Manual gain control allows you to control the noise floor of the receiver and I personally find it very useful when searching for weak signals or turning it down to enjoy the local ragchew.

Transmitter

The microphone amplifier is DC coupled to the microphone. This was done to steal some DC bias that is required when using a Personal Computer type of headset. If your microphone does not require any bias, then insert a 1uF in series with the microphone. The microphone amplifier is a simple single stage audio amplifier. It does not have any band pass shaping components as the SSB filter ahead will take care of it all. One 0.001uf at the microphone input and another at the modulator output provide bypass for any stray RF pickup.

The two diode balanced modulator uses resistive as well as reactive balancing. A fixed 10pf on one side of the modulator is balanced precisely by a variable 22pf on the other side. A 100 ohms mini preset allows for resistive carrier balance. The attenuator pad at the output was found necessary to properly terminate the diode modulator and keep the carrier leakage around the IF amplifier to a minimum. While this may seem excessive, it produces a clean DSB with carrier nearly 50db down with careful adjustments on the oscilloscope.

Rest of the transmission circuitry is exactly the same as the receiver. There is an extra stage of amplification (Q14) to boost the very low level 14MHz SSB signal from output of the microphone tip to driver input level.

The output amplifier boosts the SSB signal to 300mV level, enough to directly drive a driver stage.

The Power Chain

A simple power chain consisting of a low-cost medium power NPN transistor (2N2218) driving an IRF510 for 6 watts of power at 14MHz. The output of IRF510 uses a tap washer as an output transformer. The output transformer has 40 turns of bifilar winding; these can lead to enough stray capacitance to affect proper performance as a transformer. The half-wave filter that follows the transformer absorbs these capacitances as a part of the matching network.

I used this power chain because it works for me and delivers 6 watts on 14MHz. I don't use more power because I neither require more nor do I have a power supply that can source more. If you need more power, there are a number of things that you can do, you can simply increase the supply voltage on the IRF510 up to 30 volts and extract nearly 15 watts of power from the same configuration. At 30 volts, the drain output will be at 30 ohms impedance and the pi-network will have to be designed to directly match the drain to a 50 ohms antenna load. Alternatively, you could try two IRF510s in push-pull. These are variations that you can play with. A word of warning though, The RF energy at these levels

can give you a serious RF burn. RF burns can be more painful than fire or steam burns. QRP is not only fun, it is also safe.

Construction

I would highly recommend that you construct it over a plain copper clad board by soldering the grounded end of the components to the copper and the other ends of components to each other. Look at the pictures to see how it has been done. If you don't know about this method of assembling RF circuitry, then you should read about it, there are quite a few write ups on the Internet about this method of RF experimentation. It does not require any PCB, it is quite robust and very stable.

Assembling the PCB

For those who feel intimidated by this 'ugly' method, I have designed a PCB. The PCB layout (component side) is provided with this article. It is a single sided PCB with wide tracks that can be easily made in the home lab. I am making a run of these PCBs but shipping them abroad (outside India) maybe a problem. Drop a mail to me if you are planning to make some PCBs, I can put your contact information on the website. There are no copyrights over either the PCB, the circuit or even this article, feel free to copy and distribute.

The PCB is laid out in a long line.It is 8-1/2 inch long and 2-1/2 inch wide. The circuit board is big for the circuit that goes onto it. This was done so that the board is non-critical and it works well. All the bidirectional amplifiers are similarly laid out.

When you get your PCBs, inspect them thoroughly, preferable in the Sun. Check for small cracks in the tracks. Check for tracks that might be touching each other or touching the ground plane. The PCB layout was done to minimize this, but check it anyway. Especially check for the tracks that run diagonally to the base of each transistor in the bidirectional circuitry. These are laid out very closely and they are candidates for shorting.

Almost all assembly instructions ask you to solder the transistors in the end. I would highly recommend that you solder the transistors and the diodes first. You are most alert when you start a project and if you place the transistors correctly, the rest of the circuit can be soldered around it. Be very careful about the orientation of each transistor. The microphone amplifier transistor (Q10) faces in a direction opposite to the rest of the transistors and the transistor pairs in bidirectional amplifiers face each other. The diodes have a ring to indicate which way their 'arrow' is pointing.

After the transistors are soldered, finish the BFO. If you are assembling this for 14MHz and above, the BFO will need a coil in series with the crystal (USB mode), if you are need LSB operation, you will need a trimmer instead (see the schematic). Apply power to the BFO and you should be able to hear it on your Short wave broadcast radio around 31 meter band. It will sound like a silent radio station. It should be quite strong. Switching the BFO power supply on and off will help you identify your BFO signal on the radio. If you have an RF probe, or an oscilloscope, you should be able to see the oscillations. Expect RF of 2 volts or more.

Next, assemble the VFO. Winding 150 turns of the VFO coil is one of the most tedious jobs while assembling this rig. It has to be done, so just dig in and do it. You don't have to attach the 365 pf tuning capacitor yet. Check the oscillations on a receiver or a frequency counter. You may have to decrease the number of turns. Without the 365 pf, the 22pf trimmer should be able to set the VFO to 4.3MHz or so. If the VFO is oscillating at a lower frequency, then remove some turns from the coil. If the VFO is at a higher frequency, add 22pf in across the 22pf trimmer (if you are using the PCB, solder in from the foil side). You will require a wire jumper to carry power supply between the VFO and the BFO. They are the only stages that remain switched on during both transmit and receive.

Assemble the audio pre-amplifier and the audio power amplifier and attach the volume control. When power is applied to the audio stages, touching a finger to the base of Q4 should produce static in the speaker to move even the most die-hard trash metal rockers.

Next, assemble all the three bi-directional stages! This involves lot of soldering. But all the six stages are exactly the same. Finish one stage at a time. The capacitors are symmetrically laid out and all of them are 0.1uF with one exception (100pf at the output of Q3). Remember that the emitter bias resistors are 100 ohms, 220 ohms or 470 ohms. If you mix up the values, the rig will still work but it will under perform in the

presence of strong signals and the transmission will be splattered. There are jumpers for T and R line across the crystal filter. Solder them up and power on the R line and then the T line alternatively. The emitters of bidirectional stages should show 2 volts approximately and the collectors should show around 8 volts and the switched-off transistor should show zero voltage on all the three leads.

For the moment of truth, solder the three coils, trimmers and capacitors of the RF filter, attach an antenna and switch it on! Check that the stages are working starting from audio end. If you touch the volume control's control pin, you should hear AC hum and static. If you touch the base of Q4, there should be a pretty loud static. Take a lead from your VOM and touch Q3, you should get very loud static, probably mixed with local AM broadcast. Touch the base of Q2 with the test lead and you should get lesser static as the filter allows only 3 KHz of 10MHz through.

Finally, connect the antenna properly at the input of the RF band-pass filter and peak up the three trimmers for maximum atmospheric noise. Attach the 365 pf and start tuning around the band, peak the RF front-end on a strong signal and then tune in a weaker signal and peak for maximum clarity (not maximum sound).

An important note: Be sure that you have connected a proper 50 ohms antenna load. The RF filter performs correctly only at 50 ohms. If you use a long wire to do the initial testing, you will have to touch up the trimmers again for the proper antenna.

Take a break, spend the evening listening to your new homebrew. If the CW signals tune to dead beat and rise on the other side again, your BFO has to move its frequency. For USB, add more turns to the coil to the BFO coil, for LSB, tweak the trimmer. You should have a perfect single signal reception. If you tune past the dead-beat of a CW signal, the signal should drop out completely.

Assembling the microphone amplifier (Q10) and the output amplifier (Q14) will complete the exciter portion of the transceiver. To put the transceiver in transmit mode, ground the R line and apply 12V on the T line. Attach the output of Q14 to an oscilloscope but don't attach the microphone yet. Null the carrier with the 100 ohms preset and the 22pf trimmer. Each affects the other so you might have to go back and forth between the two controls.

Now plug-in the microphone and speak into it. You should be able to see clean SSB of between 200 and 300 mV on the scope at the output of Q14. Instead of the oscilloscope you can use another 14MHz receiver to test your transmission quality. Switch off the AGC of the other receiver while setting the carrier null. A soft whistle (if you can manage) into the microphone is should result in a full carrier at the output.

Next, assemble the power chain. At this point, you will need a suitable chassis to house your project. Any metal box will do. If you don't have any, you can solder pieces of copper clad together (like I did) and make a U shaped chassis. Keeping the VFO in open air makes it drift a bit. A closed box is really very useful.

A big cookie (or chocolate) box of tin is really ideal. With a hand drill, you can easily make holes to fit the two PCBs inside it. Tin is easily soldered on. Use the biggest knob you can find for the main tuning. The plastic broadcast capacitors usually have a very short stub that cannot take a big knob. It takes on a small plastic drum that is held onto the capacitor spindle with a retaining screw. Clip on the drum onto the tuning capacitor, tighten the retaining screw well and with epoxy glue, stick a big knob over the drum. This will make your main tuning mechanism.

I use a simple double pole triple throw switch for Transmit/Receive switch-over. If you prefer PTT operation, you can easily substitute the switch for a relay. Be sure to solder a reverse biased diode across the relay coil to prevent reverse voltage from entering into the transceiver power line.

Use shielded cable for all the connections between the power amplifier and the main board.

Tune-up and Operation

Set the VFO to correctly cover 4.0 to 4.4MHz. If you can, take your rig over to a ham friend's shack, you can monitor your VFO on his rig at the edge of 80 meters band at 4.0MHz. Set the trimmer so that you can hear the VFO when the friend's receiver is tuned to 4.0MHz and your tuning capacitor is fully closed (as much as it will go anti-clockwise). After this, connect the antenna and peak the RF coils for maximum noise in the speaker. If you can tune it to a weak signal, then peak the RF coils for best reception.

You might find that although you are able to tune in CW stations, you are unable to hear the SSB stations properly. This indicates that your BFO is not properly set. We will take that up next.

On amateur bands above 10MHz, SSB is transmitted on upper sideband and on bands below 10 MHz, it is transmitted on lower sideband. To tune a upper side-band signal, your BFO has to be at the lower edge of the crystal pass-band. You will require either the inductor (for USB) or the capacitor (for LSB) in series with the BFO crystal. If your BFO is set to proper frequency then the signals will tune in and as you continue tuning across the signal, they will drop in pitch and disappear. If the signals appear muffled, then the BFO is set in the crystal filter's center, add more turns to the coil (USB), or tweak the trimmer (LSB). If the signals appear shrill and you are unable to zero-beat them, then the BFO is too far away from the filter's frequency - Decrease the coil's turns (for USB) or tweak the trimmer (LSB).

The transmitter tune-up essentially involves setting the carrier null. It is best to tune up the transmitter on a dummy load. I use 8 220 ohms, 2 watts resistors in parallel as my dummy load. It is worth the few bucks to have a proper dummy load. Attach the dummy load on the transmitter, and attach an RF probe to the dummy load (or an oscilloscope). As you speak, you should get 20 volts or more peak voltage on the dummy load when you whistle or just go 'haaaaallow'. On another receiver in the same room, connect a short piece of wire as an antenna and monitor your own signal. You will probably be able to hear your own carrier as well. Null it by tweaking the 100 ohms preset and the 22pf balance trimmer. They both interact, so you might have to go back and forth between the two controls.

A word of caution, the diode mixers are prone to generating odd harmonics. The third harmonic of 4 MHz is at 12MHz. So, if you simply peak the coils for maximum output on transmit, you might wrongly peak the RF front-end to 12 MHz (I did that). The RF band-pass filter is best tuned in receive mode over a weak signal at 14.150MHz or so and left at that.

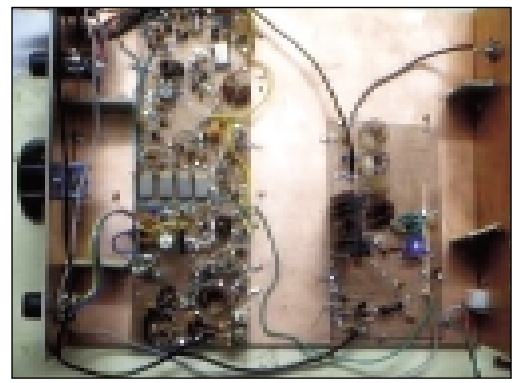
Conclusion

There might be a kit (components and the PCB in a bag) soon. I personally don't have the time to put kits together. If somebody is interested in doing so, just go ahead and do it. The design is free, you don't need to ask my or anybody else's permission. If you can drop me a line, I will list you as a kit supplier on my site.

This is also the first time I have put out a PCB design for my rig. The purpose is to address the need among Indian hams in particular for an SSB rig that is easily and cheaply built. My original aim was to keep the price under Rs. 1000. The current design brings the cost to well under Rs.300 (less than 7 dollars). Contact OM Paddy (VU2PEP) for the PCBs. His email is pepindia12345@yahoo.com (I have added '12345' to confuse programs that automatically gather email addresses from my site, there is just 'pepindia' before the at sign).

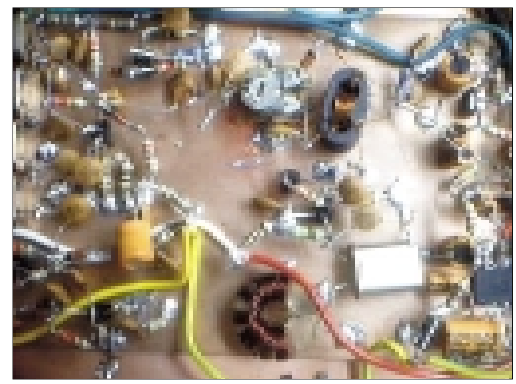
Pictures

The top view of the transceiver



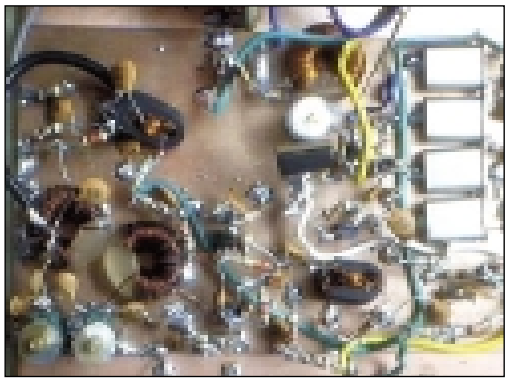
The big board has the entire exciter. The smaller board on the right is the linear

The IF and audio section



The present was soldered onto a small piece of vero-board (copper side) and the vero-board was in turn soldered onto the ground plane with small pieces of wire.

The RF front-end



Shows only two coils in the RF filter, the third was added later. The upper coil is the VFO. The mixer transformer is seen on the lower right part of the picture.

The Power chain

The IRF510's heat sink is soldered onto the ground plane. Use a mica washer to isolate the IRF510 from the heat sink.

Author Name : OM Ashhar Farhan
Website Address : www.phonestack.com/farhan
Author Yahoo Groups : bitx20@yahoogroups.com

Special Prefixes and Award Scheme for the Athens Olympics

Greek radio amateurs can use the special prefixes SX2004 or SY2004 from the 1st of June to the 15th of November to celebrate the Athens Olympic Games. Foreign radio amateurs visiting Greece from the 1st of August to the 15th of September are allowed to use the special prefix like J42004.

The Athens 2004 Olympic Games Awards are available for all radio amateurs and listeners who make the requisite number of QSOs with stations in Greece during the period of the 15th of May until the 30th of September. Special prefixes J4, SX and SY count 10 points each, 'normal' SV stations count 5 points each and the Radio Amateur Association of Greece's HQ station SZ1SV counts 50 points. A total of 250 points is required for the Bronze Award, 350 for the Silver and 500 points for the Gold Award. The address for applications is RAAG Award Manager, PO Box 3564, 102 10 Athens, Greece.

For more info:-
http://www.raag.org/award2004.html

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Special thanks to the Mr. Irshad Ahmed, Engineer, W.P.C Wing, Ministry of Communication & I.T for sending the information about reciprocal license for Olympic Games – 2004 at Athens.

Call Book Update

NIAR is preparing a revised list of VUHAM Callbook the same will be brought out as CD for the advantage of HAMs. All the Hams are requested to send in their License details along with complete address, website and mail the details to niarindia@hotmail.com or by post.

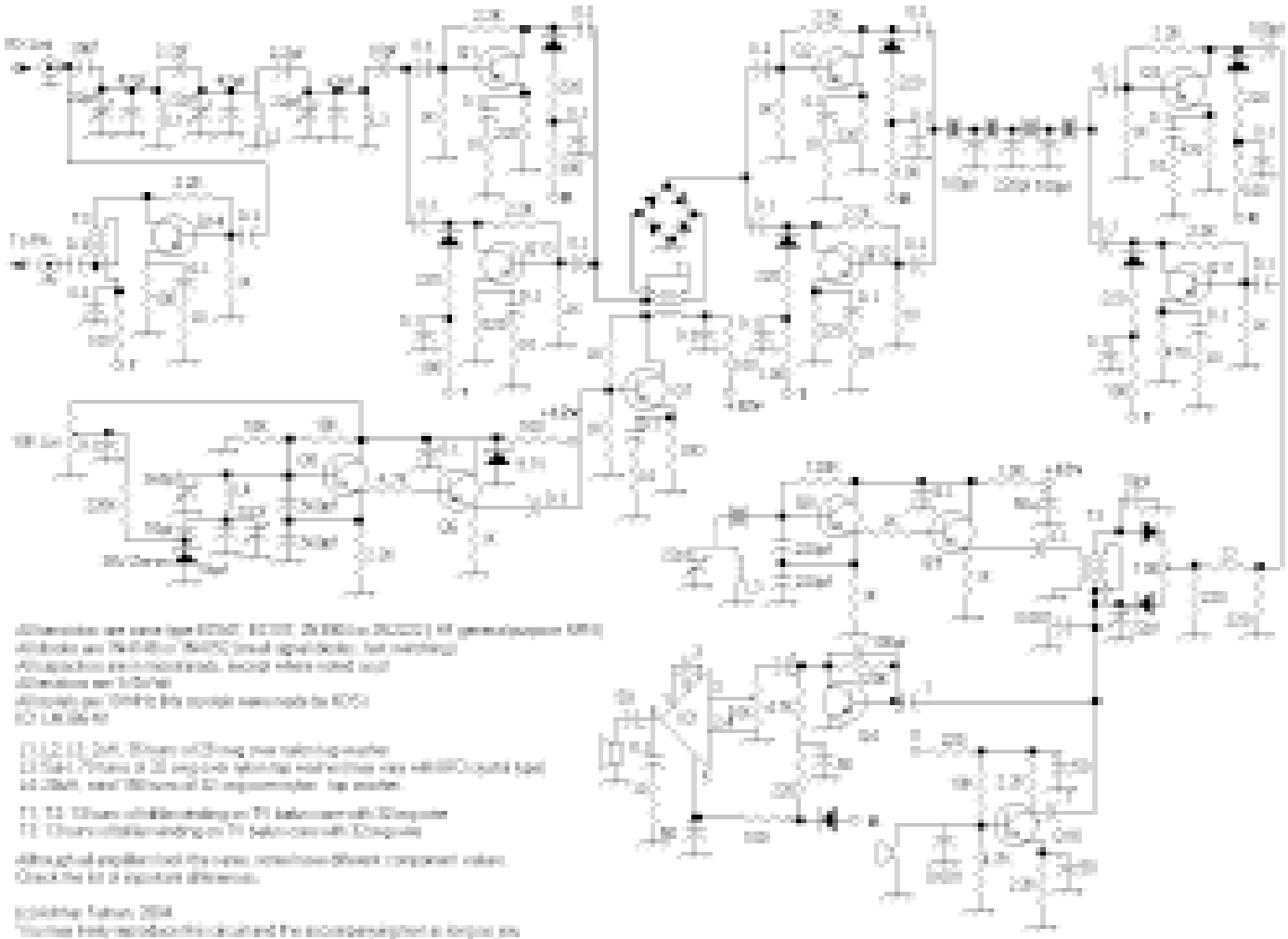
Subscribe to niarindia@yahoogroups.com

All the details and activities of NIAR will be sent to all its members via email to those registered in the group.

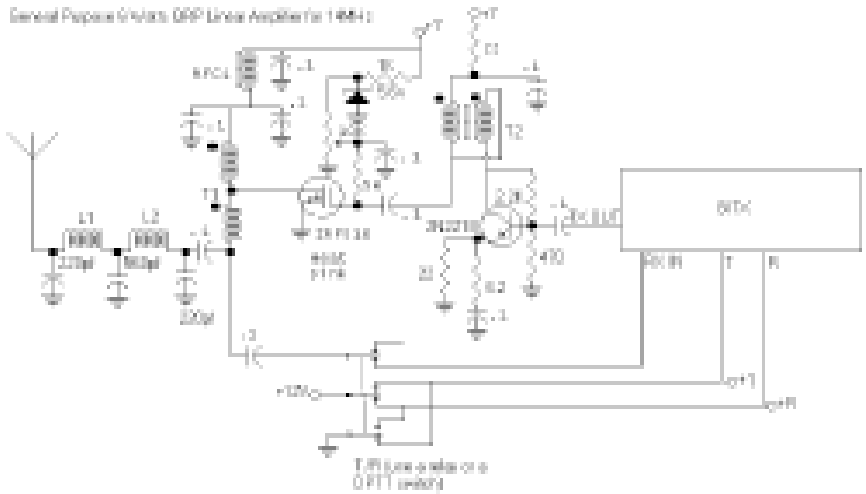
Membership Reminder

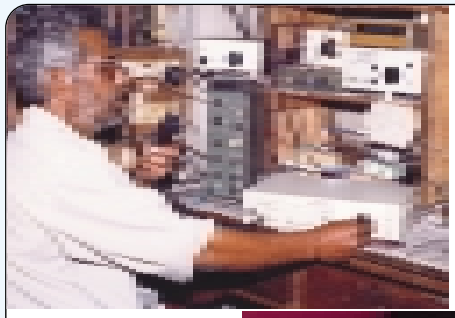
The General/Graded/Student membership of NIAR needs to be renewed every year. Hence, we request all those who are due for renewal may kindly send their renewal fee at the earliest.

Circuit Diagram of BITX20 - A Bidirectional SSB transceiver

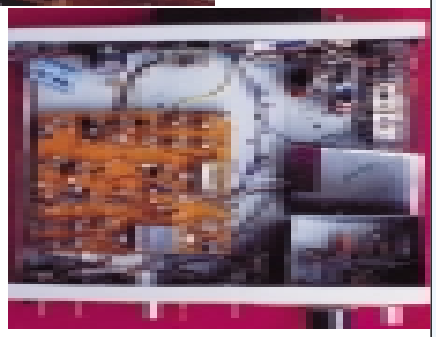


Linear Amplifier





OM Gopi, VU2GIP (Member of NIAR) operating A SSB Dual Band HF Transceiver which he homebrewed in no time designed by OM Ashhar Farhan, Member of NIAR



(Article was published in our NIAR Ham News, January 2004)

A few more other members like OM Dasan, VU2NDA etc also successfully built the above transceiver.

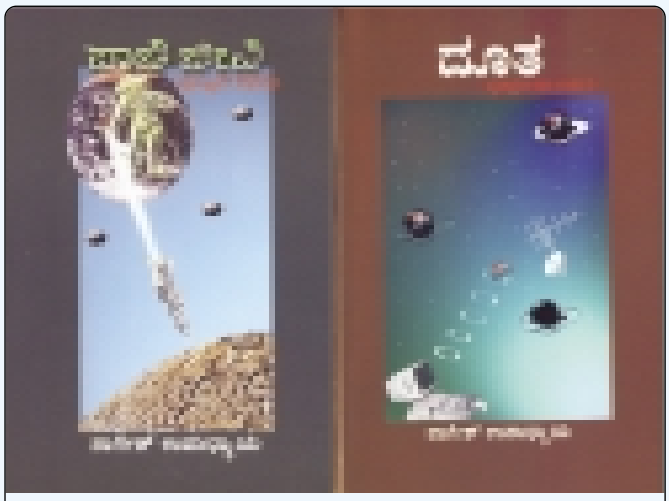
NIAR PARTICIPATES IN A SEMINAR ON "ICT 4D - ROLE OF AMATEUR RADIO" IN BANGLADESH

Mr. S.B. Ram, VU2LIC speaking at the "National Seminor & Exhibition on ICT 4D - Role of Amateur Radio" occation and on the dias Mr. Razaul Karim Chowdhary, S21K and Mr. Syed Marghub Murshed, Chairman, Bangladesh Telecommunication Regulatory Commission (BTRC) to his left

NIAR has deputed Mr. S.B. Ram VU 2LIC Additional Director, NIAR to Bangladesh for participating in a **"National Seminor & Exhibition on ICT 4D - Role of Amateur Radio"** in development communication of Bangladesh on 19th June 2004 at Dhaka, Bangladesh. This programme was organised by AHM Bazlur Pahman, S21BR of Bangladesh NGO's Network for Radio and Communication (BNNRC) & Foundation for Amateur International Radio Service (FAIRS). The chief guest for the programme was Mr. Syed Marghus Murshed, Chairman, Bangladesh Tele Communication Regulatory Commission (BTRC). The Chirman appreciated the role played by NIAR in all major disasters. He also congratulated NIAR for implementing the M.I.T. Project.

Mr. S.B. Ram with Group of Bangladesh HAMS

The BNNRC & FAIRS has requested NIAR to play a lead role to bring the SAARC countries amateur radio organisation into one umberalla to promote amateur radio in a big way. NIAR has requested BNNRC & FAIRS to come as a delegation to India for further discussion on the proposal.



Two Kannada books authorized by Mr. Nagesh, VU2NUD were published recently. These are compilations of his work in Kanndada fiction. Mr. Nagesh Upadhyaya is Governing Council Member of NIAR and is a leading writer in Technical subjects and science fiction in Kannada.

Sri. K.P.V. Ramachandar Rao, Advisor Govt. of A.P. with the Chairman & Director NIAR Sri. S. Suri, Sri. Adiraju Senior Journalist & Sri. S.B. Ram, Addl Director, NIAR during his visit to NIAR. (in a file photo)

Ms.Santosh Kumari presenting a hand drawn sketch to Mr. Suri through the hands of Shri R.Prabhakar Rao, I.P.S. (Retd), former D.G.P. of AP. & G.C.members of NIAR are also seen.

Amateur Radio Training Courses at NIAR

A fresh batch of 30 candidates registered for the Free training for Amateur Radio Operator License (ASOL) examination course at NIAR. This is the second batch of training being offered free to the interested candidates at NIAR under the MIT project. The classes for this batch commenced on 1st July 2004. The training is scheduled to be completed in two months. The students from all walks of life are participating in this programe.

A special two week crash course on Amateur Radio was conducted in the second week of July to the officers of the Military College of Electronics & Mechanical Engineering, Trimulgherry PO, Secunderabad – 15. The officers has shown special interest in learning latest amateur radio communication technologies on Voice, Digital and Visual communication technologies including Morse Code popularly used by Amateur Radio operators.

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