

QRM

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of Australia, Tasmanian Division.

JULY 1978

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AMATEUR

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RADIO

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MEETINGS

JULY 14 NORTHERN BRANCH - CLUBROOMS - 34 BOURKE ST. 8 P.M.
JULY 11 NORTHWEST BRANCH - LAKINS HALL - ULVERSTONE 8 P.M.

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A dozen (12) good, mixed, not just ordinary, not seconds, guaranteed IC's for
the best (any?) article for next month from other than the usual six people.
Their cost is two articles per dozen. Thanks.

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QRM COMMENT

Over the past few months, at least within Tasmania, there seems to have been less bickering about CB'ers. At QRM we like to think that this is due in large to the re-education of a great number of CB'ers towards the Amateur ranks.

In the Northwest area Morse classes are active at the Burnie Tech. with theory due to start early July - at Devonport Adult Education AOCPP classes are being run with novice classes due to start soon at Devonport Tech.

Hobart boasts two classes of novice trainees, plus an AOCPP class at Adult Education.

Here in Launceston the AOCPP class has 27 members, and 23 in the novice class. AOCPP members please note that classes have switched venue to the Kings Meadows High School.

All in all nearly 160 people are studying for Amateur exams - with next years classes filling up rapidly. This augers well for the Radio Amateur movement which really needs the numbers if we are to maintain our frequencies. Remember that before CB there were very few avenues of information about Amateur Radio. If you doubt that statement, think how many of your members are in some way connected to radio by means of their employment!

Would you be prepared to give up some time, even one evening towards assisting with these classes? Then please contact your executive, they really do need help with the mammoth task of preparing people for these exams.

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Please read the article by Peter Fudge - VK7ZFP - then, if you really care about Amateur Radio get a letter off - At this stage it might be too late, but we must try and change the Government attitude over CHANNEL 5A.

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W.I.A. BROADCASTS

For those who don't know - or forgot! - If the broadcast or call back is in operation and you have not previously tuned up, move 5KHz to tune - that way you should not cause QRM to those already listening.

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A.O.C.P. REMINDER

July	3	:	Vacuum Tube Principles
"	10	:	Semi Conductors
"	17	:	Semi Conductors
"	24	:	Semi Conductors
"	31	:	Power Supplies
Aug	7	:	Receiving Systems

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NORTH WEST NOTES by Jim VK7NOW

The usual monthly meeting was held at Lakin's Hall, Ulverstone on June 13th commencing at 8 p.m. There was another very good attendance - about 31 in all.

It is pleasing to note the number of newcomers who are displaying keen interest in taking up Amateur Radio as a hobby.

VISITORS: Included Mrs. Joan Fudge, XYL of Peter, VK7ZFP, DON PURDON of Burnie, who was successful at the recent novice exam and HARRY CUMPSEY, well-known businessman of Burnie also former Commodore of the N.W. Offshore Cruiser Club.

MINUTES of the last meeting were read and inwards correspondence was dealt with by the Secretary.

SOMERSET J'C's: An Arts and Crafts and Hobbies Exhibition was held in the Hellyer Regional College at Burnie on June 10th and 11th. Besides the very comprehensive display of the handiwork and hobbies of members of the community, a very interesting display of HF, VHF, ATV, RTTY, & vintage radios was put on by the North West Branch of the W.I.A. Kirby, VK7KC made several contacts during the day and Jim, VK7NOW is confident of at least three interested people - to whom he spoke with during the day - will study for their novice ticket.

Shane and Stephen were thanked, as Activity Officers, for the effort they put into arranging the display as well as members of the Branch who made gear available.

TREASURER'S REPORT: was read by Ivan, VK7NOA/ZOA and was passed.

GUEST SPEAKER: Mr. Ray Groom, MHR, sent an apology for his inability to attend as Parliament was still in session. However it is hoped that he will attend the next meeting.

COMING ACTIVITIES: RD Contest, Jamboree of the Air.

NOVICE CLASSES: A class is now being conducted at the Burnie Technical College, being attended by 20 persons. Another class is about to start at the Devonport Technical College. It is pleasing to see so much interest being shown in Amateur Radio and hopefully very soon, we can look forward to an increase of operators on the N.W.Coast.

Q.R.M.: Apologies for late delivery were received from our Editor, John, VK7ZCC, because some members of his family were involved in a car accident. I am sure everyone sincerely hopes that they are getting on just fine. We were indeed sorry to hear of this.

GENERAL BUSINESS: Membership application from Don Purton was accepted unanimously.

23 Channel CB rigs - converted for use on 10 metres - will be on sale soon at most reasonable prices. Here is your chance to break into 10 metres at low cost - ideal rig for mobile work.

TV CHANNEL 5A: Winston VK7EM expressed concern over the likelihood of this channel being made available for low power operation soon and the effect it will have on VHF operators on the 2 metre band. It was suggested that the matter be taken up at Parliamentary level.

10 metres has been "patchy" lately but 15 metres during the morning and early afternoon presents a good opening to 'W' and 'VE'. For those of you Novices who have external VFO, some good Split/Frequency QSO's are available.

COUNCIL MATTERS: Our rep, Paul VK7ZPB brought us up to date on W.I.A. Council matters and suggested a change of time of the weekly W.I.A. broadcast from Sunday morning to Sunday evening. Occupancy of the frequency and propagation could be a problem though.

KIRBY VK7KC gave an illustrated lecture on Technical matters and Production Techniques used in the various stages of producing Iron Ore Pellets from the crude ore. This lecture was most impressive and gave us all an insight into technological problems which have to be faced in a giant complex of this nature. Kirby is a Project Metallurgist employed by Savage River Mines. Members showed their appreciation of this most interesting talk.

That's all for this month, and, as they say in the classics, "I'll catch you further down the COAX."

VY 73

Jim, VK7NOW.

ADULT EDUCATION is always in need of instructors for the courses they conduct for novices, pay is reasonable. Can you help? Contact Brian VK7ZBL on 42 2545 if you are interested.

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LADIES COMMITTEE NOTES

A meeting of the ladies social committee was held at the home of Phyl Gelston on Sunday afternoon. Those present were Mesdames Emmett, Gelston, Hendricks, Clements and Grant.

Results of the questionnaire concerning social activities were as follows:- Number of questionnaires returned - 22. Frequency of social activities:-

(a) 3 monthly (15 votes) (b) monthly (4 votes) (c) 6 monthly (2 votes).

Results in order of preference:-

1	Theatre Parties	15 votes
2	Progressive dinner and wine & cheese tasting	8 votes each
3	River cruise	7 votes
4	Cabarets	6 votes
5	Film afternoon or evening	5 votes
6	Sports	4 votes
7	Family outing	3 votes
8	Swimming	2 votes
9	Soup and sandwich morning or afternoon picnic, card evening, halloween party, bingo - all one vote each.	

As a result of this questionnaire the committee will be organising a theatre party shortly. Other functions suggested were: Wine and cheese tasting to be held in August or September. Christmas party December. Progressive dinner, February or March. We look forward to your full support at these functions. Next meeting of the committee will be held on 16th July at the home of Marg Grant, Old Bridge Road, Perth.

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"SCENE AND HEARD" by "EARWIG"

Well, after being cajoled by the Editor of QRM to do something to help, I decided to write this column. It will be devoted primarily to Short Wave listening, but of course any local snippets that come my way, I'll pass on for your information.

Short Wave listening has always been my first "love" even though I have had my "ticket" for several years now and have worked quite a number of prefixes, I still get that thrill of tuning the dial for the unexpected. Now equipped with a PLL receiver I spend most of my time in the shack listening. Maybe its monitoring Air Traffic Control from San Francisco (Oakland) on 8 MHz, or copying commercial traffic from VIS (Sydney) or 2LB (Awarua) and improving my CW, or perhaps listening to one of the major international broadcasting organisations such as BBC, Deutsche Welle, VOA, etc. or listening to the racket on 27MHz. Indeed, the world is now at our fingertips, to use that well worn cliché.

Some of the stations heard and logged recently have included:-

Tahiti Air Traffic Control to Lan Chile 5635 A3 at 1110 hours UTC at Strength 7.

VJM, Macquarie Island 7920 KHz A3J at strength 9, some RTTY interference. 1015 UTC. Marker tape.

Korean Central Wireless Station, Pyongyang, North Korean on USB 18500 KHz at 0650; about strength 4-6 QSB-QRM.

Several major international broadcast stations now are transmitting their programmes on SSB. However this seems to be point to point services from the studio to remote transmitters. It is now known that the signal you thought was coming from Germany, is in fact, now from a relay base in the Caribbean, or Africa, which can be very confusing to the newcomer. Some organisations do identify their relay bases at the conclusion of their programmes. Also with the A3J transmissions there is no phase distortion as with contemporary AM signals - Listen to these PTP links and compare with the normal transmissions.

VOA link to their African relay base 7640 at 0640 GMT at strength (5) 55-8 on LSB.

BBC PTP link to the Atlantic and Caribbean relay on 12180 at 0730 with the World Service on USB, and the African Service on LSB.

Radio Australia PTP to Carnarvon (W.A.) relay on 12190 USB with their General Programme can be heard most of the time.

Radio Moscow also carry their domestic "Mayrek" programmes on various channels in Russian as well as relaying their International Services.

If you want to brush up on your CW try these commercial operators:-

V153 Sydney radio with traffic for ships 1045 GMT on 6460 KHz - 599.

DZJ Manilla radio on 6500 KHz at 1045 GMT - 589.

2LB Awarua radio (NR Invercargill - NZ) 8500 KHz at 0645.

Incidentally if you want to hear one of the Spark Gap sounds, listen to XSG Shanghai on 21310 KHz logged at 0250. A very rough AC note.

Well, that's all for this month, please pass any news for this column via QRM.

"THE EARWIG"

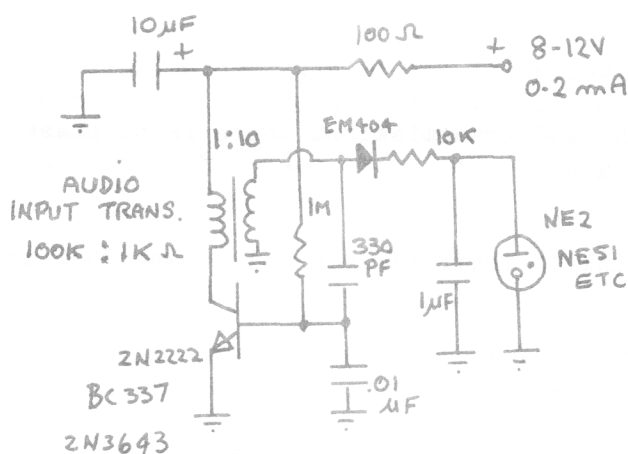
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WARNING LIGHT FOR BATTERY OPERATED EQUIPMENT

Much battery operated equipment lacks an indicator light, mainly because of the appreciable power drain, often more than the equipment itself. This circuit could save damage from battery leakage if the power is not switched off.

The circuit functions as a blocking oscillator; the high voltage pulses being rectified by the diode and pumping up the charge on the capacitor until the firing point of the neon is reached. The lamp flashes about every five seconds.

BOB VK7ZRF



DELIBERATIONS ON THE 40 MOST WANTED COUNTRIES

I can think of nothing finer than a QSO with China
I would jump and shout "hooray" if I contacted Bouvet
In sleep I oft times murmur "Oh Lord please give me Burma"
And I also rave and ramble about the need to chalk up Campbell
And while just thinking of Albania drives me zanier and zanier
It's nothing less than pathos to hear me whining for Mt. Athos

I rant and rave and bawl for St. Peter and St. Paul
And I'd pat my dog and lick him to hear "CQ" from Sikkim
I would give a thousand lire to hear someone from Palmyra
I check daily how the band is hoping for Juan Fernandez
Though I'd change my style and manner just to QSO Serrana
The success would be a dry one 'cos I'd still need to work Taiwan

When I'm old and grey and creaky I'll still need Manihiki
And though I'd stoop to being a forger of QSL cards from South Georgia
That would still not be "fini" since I8d still need one from Guinea
And the whole thing's so much phooey without a two way yack with Nieue

I tell ya, brother, flatly I'd give my wife for Spratly
And would mortify my flesh for a sniff at Bangladesh
I would wear a surgical bandage if it would help me work South Sandwich
And though that would bring me smiles I'd still need the Red Sea Isles

I wake at night so scared that I've missed someone from Heard
And my heart is full of venom for those creeps who don't need Blenheim
And my next door neighbour, Charlie who's just confirmed Somali
And that other pinhead, Frank how did HE work Geyser Bank
I could shout and yell with fury 'cos that lid Jack has just worked Kure
And I still cannot forget I need a two way with Tibet

But one day I'll end my Credo with a fervent joyful "amen"
I'll have worked Revilla Gigedo and - guess what? that's right - South Yemen
So on and on I strive toward the final goal
That by the time I'm ninety five I'll have made the Honor Roll!

* * * * *

SOME MODIFICATIONS TO AMATEUR BUILDING BLOCKS FM EXCITER

In my unit power output was on the low side and some coils resonated with the slugs right out.

L12 turns were reduced from 18 to 16, then tuned with the slug $\frac{3}{4}$ in.

L14 turns reduced from 9 to 8. Capacitor changed from 10 PF to 6.8 PF.

Capacitor across L16 changed from 10 PF to 6.8 PF, L16 then tuned much better.

RFC 1 reduced from 12 turns $\frac{1}{8}$ " diameter to 6 turns and spread about $\frac{1}{2}$ ".

The tuning was much more acceptable and power out was a full 2 watts with 12.6v supply.

BOB VK7ZRF

PROBLEMS OF CHANNEL 5A ALLOCATION - ANYWHERE !!!!!

Reference a comment from Jim VK7NOW in N.W.Branch notes.

Have YOU read your June issue of A.R. ?

DID you read the article on Page 7 entitled " THIS AFFECTS YOU."

This article was drawn to the attention of the N.W.Branch meeting by Winston VK7EM.

FEDERAL GOVERNMENT APPROVAL HAS ALREADY BE GIVEN , we believe,
for the use of Channel 5A in some major areas.

Reaction to our member's concern was disappointing and perhaps we on the coast may not be directly affected yet by this channel introduction.

I am most concerned.

For our peers on the mainland and those of us who like contact with them during openings, it will be a crucifixion.

It is imperative that we lobby our parliamentary members by both means, fair and foul, to reconsider the advisability of lisencing the 5A Channels anywhere in the Commonwealth. There are many otherchannels available inthe U.H.F. spectrum, as yet untouched and now should be developed for these purposes. This is the obvious way to enlarge Australian TV Channel allocation.

We all recall the fiasco of Channel 0 allocation in Melbourne and Brisbane in the first 2 mHz of the international 6 metre band (50-54 mHz) limiting us Amateurs to 52-54 mHz. Initially it was thought that CLEAN TRANSMISSIONS would be permitted on air even if overload or other interference to TV receptions occurred.

SUCH WAS NOT THE CASE.

Refer Kevin VK7ZAH, he has a very specific story to tell.of his experiences.

The Amateur is required to AVOID transmission during hours of peak viewing time even if he is innocent.

DON'T think it can't happen to you.

State your opinion and have it recorded somewhere, at yourbranch meeting, in Q.R.M., in A.R. or ultimately with your local M.P.

Do NOT let it rest.

Peter VK7ZFP

HINTS AND KINKS

This months Hints and Kinks are for the ladies.

SEWING; to prevent breakage when stitching seams in canvas and other heavy material. Rub soap along the line of stitch this will make it easier going for your sewing machine.

STAINS ON RARE CHINA: Those who take pride in their collection of rare china and wish to remove coffee or tea stains from the hair-line cracks can try this method. First apply ordinary baking soda slightly moistened to the area that is stained. Let stand for about one hour and wipe off. If one application does not remove the stain completely, repeat the treatment.

KEEP OUT THE COLD: window screens are converted to temporary storm windows by coating them with clear lacquer. This fills the mesh but still allows light in. In the spring this can be removed with thinners. Caution is to be taken if screens are of the fibre-glass type and a small piece of scrap screen should be tried first.

PAINT REMOVER: hardened paint and varnish can be removed from brushes with vinegar.

REFRIGERATOR: wash the inside of your refrigerator with lukewarm water and borax to keep it sweet and clean. To absorb the odors put a piece of charcoal on one of the shelves.

DEODORIZED TEAPOT; if a teapot is used infrequently try dropping a lump of sugar into it after washing and drying. Then even though the teapot is stored on a shelf for weeks at a time a musty odor will not be apparent.

KEEPING FLOWERS: fresh flowers may be preserved almost indefinitely by dipping them in a solution of collodion, thinned with ether.

GRASS STAINS: to remove grass stains from clothing sponge the stained portion of the fabric with ammonia and water before washing.

DRESSER TOP STAINS: the finish on the tops of dressers, night stands etc is protected if a sheet of wax paper is placed under the scarf. Spilled cosmetics, medicines and other liquids will not soak through the paper.

STORED LINEN: is less likely to turn yellow if it is wrapped in black opaque paper and kept in a cool place.

CLEANING FLASKS: a tablespoon of uncooked rice and a cupful of warm water poured in a vacuum flask will get it sparkling clean. shake the bottle vigorously. The rice and water mixture is especially effective in cleaning a vacuum flask which is used for coffee.

AN AUDIO PATCHING SYSTEM

Not long after I became involved in the relay of the VK7 Divisional Sunday morning broadcast from VK7WI/P I realised that I needed something better than an acoustic patching system with all its related problems.

The system used and described here is about as simple as one could be and yet I have found that it is capable of doing any function that I wish of it.

The patching system shown consists of two audio transformers T1 and T2. Transformer T2 has winding impedances of 600 ohms to 20K ohms while T1 has impedances of 600 ohms to 15 ohms. Transformer T1 is for connecting to low impedance program sources such as the audio output of a receiver while transformer T2 is for connecting the program source to a high impedance load such as a tape recorder or transmitter. As shown the two 600 ohms windings are connected together and a "VU" meter is connected across these windings. The "VU" is suitably calibrated in decibels and makes for a visual indication of the level of audio signal passing through the patching unit.

As stated, the meter used is a proper "VU" meter but any suitable meter will do, for only an indication is required and once the necessary levels are determined, then only some means of monitoring that level is required.

The need for monitoring the signal level is important, as in my case, the re-transmitted signal is, on occasions, relayed once again by other stations and therefore it is desirable that the signal transmitted be as constant as possible, in level, for the re-transmitting stations.

The audio signal upon leaving T2 is fed to the signal source select switch S1 via a resistor divider comprising R1/RV1. This switch selected the program source being either microphone input, patch input, or auxiliary input. The signal level to be fed to the transmitter via the patch input is adjusted to the required level by the potentiometer RV1, while the "VU" meter monitored the incoming signal (in my case "0" DB). This high impedance input is suitable filtered to prevent RF interference.

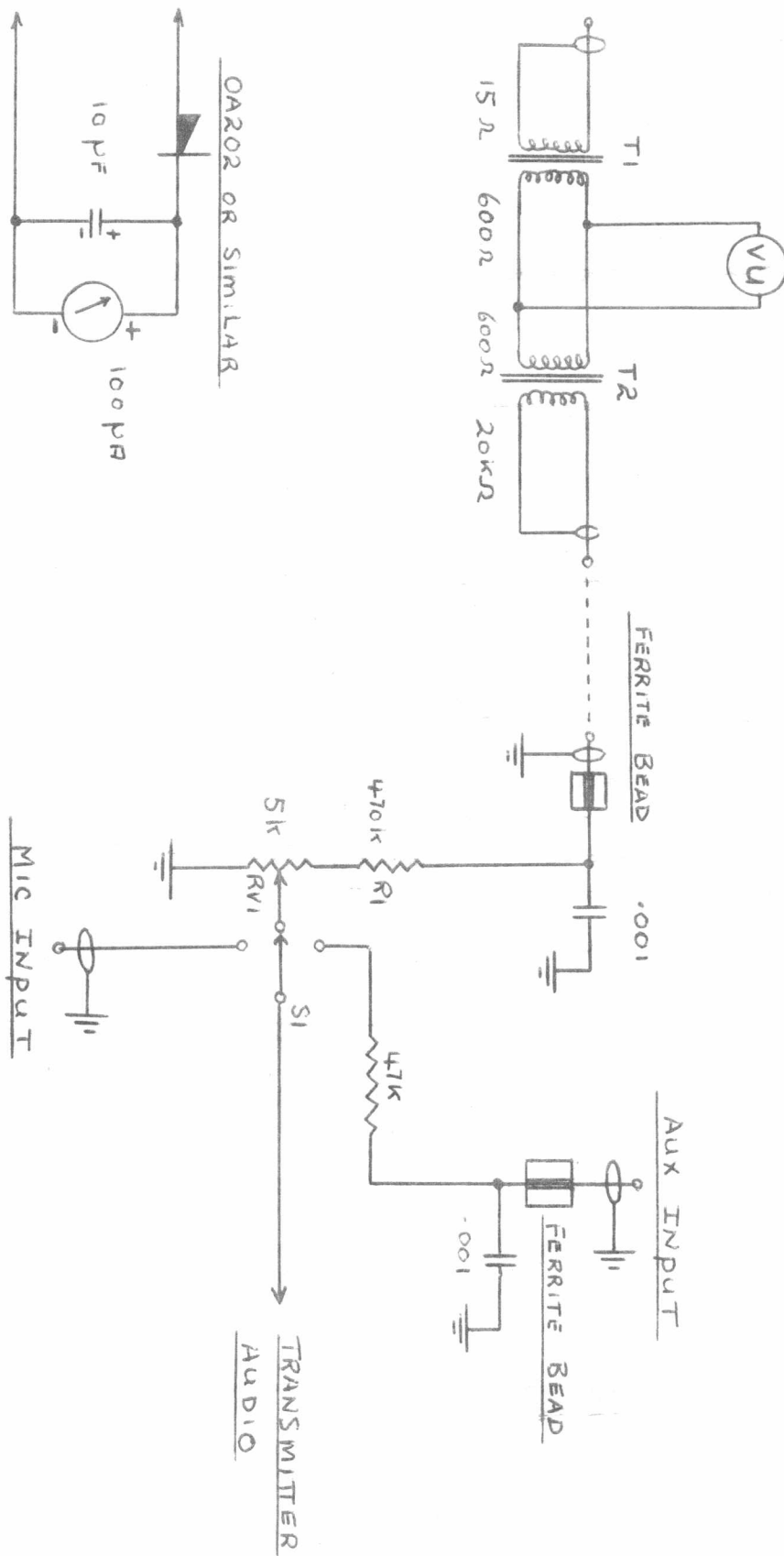
Switch S2 is simply a manual transmit function and is connected to the transmitter P.T.T. line.

As mentioned before, this circuit is as simple as one could be, but it does the job very well as experience has indicated.

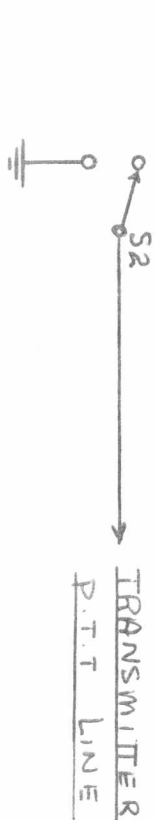
One addition to this will be the inclusion of a constant output amplifier, which is still under development at this stage and when completed will be described at a later date.

Brian VK7ZBY.

AN AUDIO PATCH SYSTEM



ALTERNATIVE METER CIRCUIT



DX NOTES by COL VK7LZ

Although we are, according to the theorists, passing through the winter low in DX activity there still appears to be sufficient of the more succulent DX to be had, although you may have to work a bit harder for it. Unfortunately what follows is one man's impression of conditions on the bands so consequently it can only cover a very small portion of the DX spectrum. Perhaps I have an inferiority complex but I cannot help feeling that if I list a vast amount of rare DX that I'm boasting and on the other hand if all the other DX'ers - that don't tell me of their experiences - have lists of exotic countries worked that I didn't hear - then well I'm a dil and shouldn't be writing these notes. With this in mind here goes.

First it must be apparent to all that evenings are now practically a write off, however, judging by the local call signs copied during the day there must still be plenty of DX worked.

The DXpedition by P29JS and F6CYL to Cocos Keeling Island got under way on schedule in spite of equipment problems and were QSO'ed by several VK7's on 14, 21 and 28 MHz SSB and CW and I'm glad to be able to report that this included some of our novices.

3B9DA on Rodriguez Island was also worked by local hams. Alex could appear signing 3B7DA from St. Brandon Island early in July.

Have heard mention of activity from Sable Island during July by a W1.

The Mellish Reef expedition is still scheduled for August and this will certainly give many of our members a new country.

San Felix Island is another possibility in October by the same team that activated Juan Fernandex last year.

The best of the calls espied here during the month were:-

28 MHz SSB - RA9CGC, UA9UTV, XE1KB, VK9YL, VK9YS, 7Q7LW
also ZS's.

21 MHz SSB - CM2RX, TR8LE, VK9YL, VK9YS, 9J2B0.

14 MHz SSB - CN8AK, EL3A, FP8DX, GJ2LU, HV3SJ, KG4MM, PJ4CR,
TU2FH, VK9YL, VK9YS, VP91B, VS5DX, VYQCA,
ZL4QL/A, ZS3AW, 3B9DA, 5T5ZR, 7X2KAR, 7X2LS,
9H1EY, 9H4H, Also EA8's and ZS's.

QSL INFO

FP8DX, Box 41, St. Pierre and Miguelen Is.
KG4MM via KIMM. VKQGM via VK3OT.
ZL4QL/A via ZL4AV
CM2RX, Box 1, Havana, Cuba

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OSCAR NEWS

Oscar 8 has now stabilized quite well and with the aid of "Amateur Radio" and the Oscar tracking tables published by Peter VK7PF in QRM May 1978 there is now no excuse for not hearing this "bird".

Over the last few weeks VK7LZ has worked VK1, 2, 3, 4, 5, 6 & 7. ZL1 & 3 also VKQGM at Casey base Antarctica all on mode A. Graeme VKQGM is now fairly active and has been QSO'ed twice by Col with good signals both ways, watch for him on passes from 190° W.

QSL via VK3OT with a self addressed and stamped envelope for a quick reply.

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NEXT MONTH: Deadline for material - 20th July - An article on how to set up an electronic keyer, properly - More on TV systems - plus more, even YOUR article, which we really need.

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STOP PRESS!

STOP PRESS!

It would appear that the current government is about to back down on another promise - they are having a "re-think" about 1982 and the cessation of CB activity on 27 MHz - Those \$25 licence fees must be a great help towards their salary increases!

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GELSTON COMMUNICATIONS

For all 2-way radio service - suppliers of amateur equipment - Agents for VICOM (J-Beam antennae), EMONA and EMESCO. See "AR" for products sold, including digital panel meters, fluke meters, calculators, digital watches, CRO's - Orders accepted for the new DRAKE "DR7" transceiver 250w SSB with options "AU + 7" and "DR7". The unit is a 0-30 MHz general coverage receiver, 150 MHz frequency counter and the "S" meter serves as a 200w waH meter. All amateur bands plus any 8 500 KHz segments. Refer page 94 EA June 78 for details. Approx. price around \$1750. This includes AC power supply. Phone 443882.

JOE GELSTON VK7JG

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FOR SALE

FT101B - \$650.00 includes G3LLL speech processor.
SE501 27MHz Transceiver - \$80.00

VK7JG QTHR

VHF NOTES by JOE VK7JG

Just a few lines this month as very little has been happening. Two metres has been very quiet, with six much the same way, although six has been open on several occasions to VK4 and ZL. Now is the time for mid-winter 6m openings so keep an ear close to the band. Although no ZL stations were worked their TV has been watchable (!) several times.

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A LOOK AT THE PHILLIPS UHF CB RADIO by PETER VK7PF

You may have already seen reviews of this recently released first - a 40 channel UHF radio wholly designed and built in Australia. I intend to point out some technical data of interest to amateurs. Firstly the specifications:

Input voltage 10.8 to 16.2 volts DC. Consumption receive muted 250 ma, at rated audio 550 ma. Transmit 1.5 amps. Polarity of supply - floating. Mode - FM. Dimensions 22.5 cm deep, 16 cm wide, 5.5 cm high - weight 1 kilogram. Freq. range 476.425 MHz (Chan 1) to 477.4 MHz (Chan 40). Channel spacing 25 KHz. Receiver audio output 2 watts, selectivity 40db + or - 25 KHz. Sensitivity - 12db S/N at .5 uv. Mute range - low .4 uv, high 1 uv. Transmitter - RF output 5 watts, spurious out of band - 1 uw. Maximum deviation $\pm$ 5 KHz.

The case is a plastic two piece and the set has similar controls etc. as say an IC22 except the mute is switched between high, low and off. The other major difference is the lack of usual channel change knob. When switched on it comes up tuned to what apparently is a call channel of Chan 11. This can be changed instantly to a pre-selected channel of your own choice with a small switch or else moved up or down by a paddle switch under the LED channel readout. A duplicate switch is mounted on the microphone for ease of operation and in either case a change of channel is indicated by a "plop" in the speaker.

Inside, the set is built on only two circuit boards. One horizontal with most of the components and a vertical board behind the front panel. The components used appear to have been selected on the basis of what was best for the job rather than using purely Philips parts. Some of those used are new to us and will be of interest for use on 70cm band.

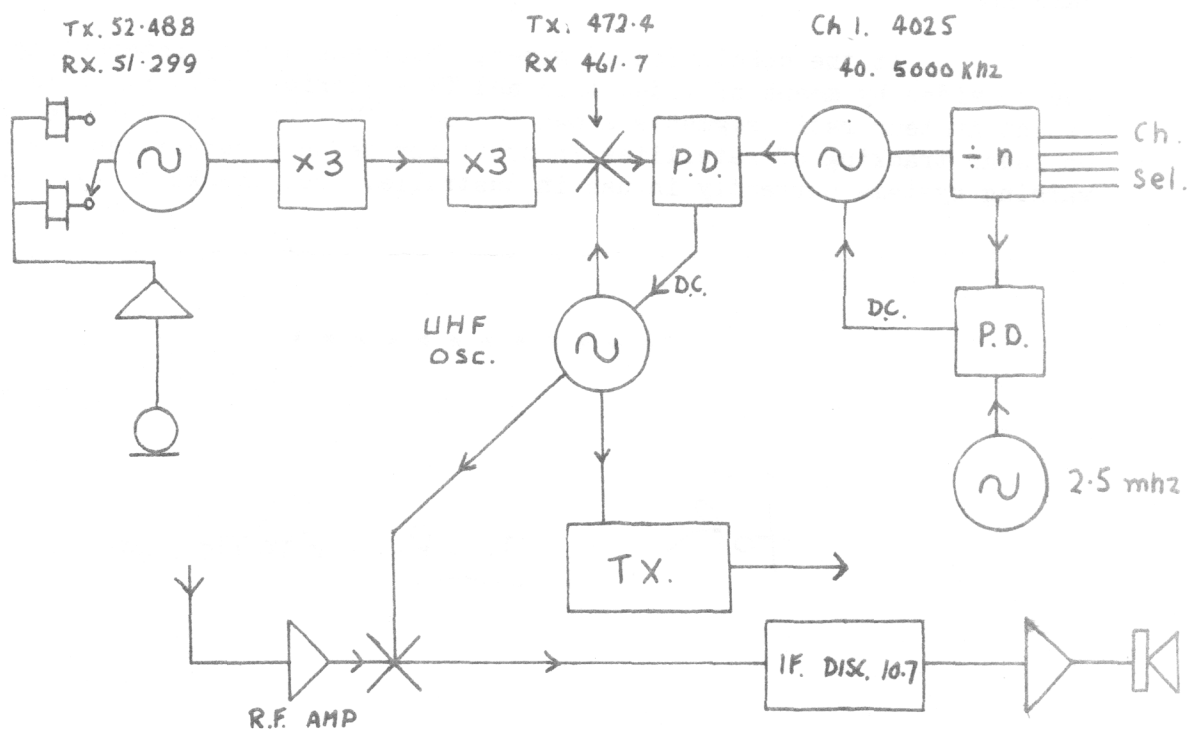
The circuit design uses a single conversion receiver and the transmitter is a master oscillator PA type. The master oscillator operates on the output frequency for transmissions and as first oscillator on receive. It uses a small length of co-ax as a tuned circuit. To control this oscillator a two stage PLL is used. As you will see from the block diagram, it is mixed with the output of a crystal oscillator reference chain to produce an output in the range of 4025 to 5000 KHz. The first PLL keeps the oscillator locked so as the output of mixer is equal to the signal generated by the second PLL. This generates 25 KHz steps from 4025 to 5000 KHz. To modulate the transmitter after an audio amp, clipper and active filter the speech FM modulates the TX crystal in the reference chain. I would like to have seen a more integrated PLL circuit as, although it could be an advantage to us, it would be quite easy to alter channels. I believe this has already been done for CB use.

The receiver uses a plastic version of BFy90 in RF and mixer stages. The selectivity is determined by what appears to be two monolithic crystal filters. The limiter discriminator uses a TOA 1047 IC. This has a signal level output for S meter which, as usual, doubles as a power output indicator. The high mute circuit uses signal level, the low mute uses noise reduction.

The transmitter has 5 stages after the MO and ends up with a BLX68 PA and diode T/R switch.

Performance - On the bench the unit reviewed met the specifications. The "on air" tests were of course confined to listening. The audio quality and output were very good and from comments and general listening the range being obtained appears to be greater than 27 MHz sets, even in hilly country.

I was very impressed with the set but disappointed that the design wasn't such as to discourage extension of frequencies. This can only bring trouble.



HEARD

Some very good CW by Tony, VK7TW, suitable for copying to get the novice speed, or purely to upgrade your competence - around 28540 KHz.

NORTHERN BRANCH NOTES

MAURICE VK7JU

The June meeting was well attended with over 30 members and visitors. Chris, VK7UX on leave from Botswana also put in a welcome appearance. We wish him a safe return there some time around July.

Tony, VK7TP reported very active trading by the store - current bank balance \$1648.00.

Membership applications were received from Frank Morse, Alan Sherriff, L. Bassett, and A. Simpson.

A letter of thanks was received from the Northern Tasmanian Equestrian club, conveying thanks to the NB WIA for the assistance provided during the field section of the 3 day event held at Relbia. This was conducted as a WICEN exercise.

Shortly it is hoped to organise a "working bee" at the clubrooms Bourke Street, to complete outstanding projects - BE WARNED, and please, PREPARED.

At the conclusion of general business a very interesting programme was provided by means of video tape and TV - glorious colour. This comprised recent Amateur radio segments shown by local TV. This was followed by tapes on radar tracking of satellites in orbit for defence surveillance and early warning systems currently in use in Australia. Our thanks to Reg, VK7KK.

for your ARTICLE

NEXT ISSUE.