

A M A T E U R



R A D I O

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of Australia, Tasmanian Division.

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MEETINGS

JUNE 9 NORTHERN BRANCH - CLUBROOMS - 34 HURKE ST. 8 P.M.
JUNE 8 NORTHWEST BRANCH - LAKINS HALL - ULVERSTONE 8 P.M.

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QRM COMMENT

Welcome to another issue. I'd like to introduce to you our Sub-Editor for the NW coast, Joan Fudge. Joan and her husband, Peter, VK3ZFP/P7 are now resident in Tasmania. On behalf of all the members we hope that your stay will be a happy one and full of DX. Joan's address is 22 Elliot Street, West Ulverstone, 7315. Would members please forward to Joan any articles for QRM - they needn't even be typed, just legible. To get you in the right NW spirit an article by Brian 7ZBC is included in this issue. We really do need items for QRM so please extract the digits!

The RTTY night on 17th May at the Northern Branch Hall went off really well, with fourteen members and four teletype machines in attendance. Peter Ackerley from the Central Telegraph office was our guest speaker and in conjunction with some very sophisticated equipment managed to get a few of the machines on the correct speed and working properly - many thanks Peter.

STOP PRESSSTOP PRESS

An evening at the Princess Theatre, Launceston can be arranged for Friday night, 16th June to see the film "Saturday Night Fever" starring John Travolta and Olivia Newton John. Supper will follow at a venue to be arranged; patrons are asked to bring a plate of goodies. Anyone interested in going please ring Marg Grant (Launceston 982361) by Tuesday 6th June so that a block booking may be arranged - minimum number 20.

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WANTED TO BUY OR BORROW

- Bob, VK7ZRF

Crystals in the range 13.766 - 13.866 or 4.588 - 4.688 Mhz

+ + + + +

"A LITTLE BIRD TOLD ME"

That someone in Launceston has been pirating for nine months!

When is Kirby, VK7ZKB going to be heard on HF?

That we might be getting another licensed YL on the NW Coast!

That Lionel Bird is going to write an article for QRM on the Convention he attended in Melbourne.

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REMINDER!

A.O.C.P. Classes 1978

June 12:	OHMS Law and Resistor Colour Code
June 19:	Vacuum Tube Principles
June 26:	Vacuum Tube Principles
July 3:	Vacuum Tube Principles

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-BATTERY CHARGER -

If you have a heavy duty transformer which has a higher secondary voltage than you would normally desire to make a battery charger with then this circuit is just what you are looking for. As shown the circuit is capable of charging a 12 volt battery at up to a 6 amp rate. Other voltages & currents from 6-600 volts & up to 300 amps, can be accommodated by suitable component selection. When the battery voltage reaches its fully charged level, the charging SCR shuts off, & a trickle charge as determined by the value of R4 continues to flow.

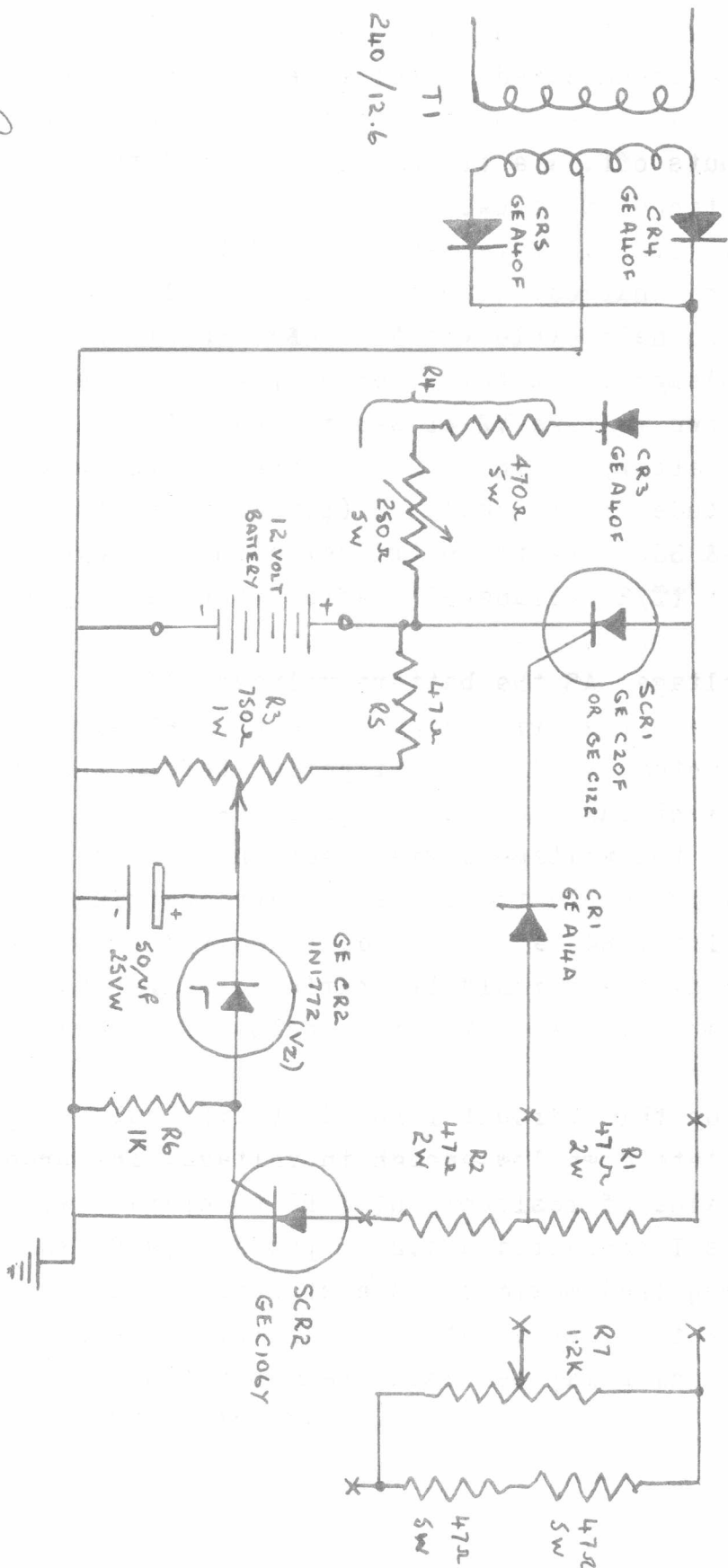
CR4 & CR5 deliver full-wave rectified DC to SCR1 in series with the battery to be charged. With the battery voltage low, SCR1 is triggered on each half cycle via R1 & CR1. Under these conditions the pick-off voltage VR at the wiper of potentiometer R3 is less than the breakdown voltage VZ of zener diode CR2, & SCR2 cannot trigger. As the battery approaches full charge, its terminal voltage rises, the magnitude of VR equals VZ (plus gate voltage required to trigger SCR2), & SCR2 starts to trigger each half cycle. At first SCR2 triggers at $\pi/2$ radians (90°) after each half cycle starts coincident with peak supply voltage, peak charging current & maximum battery voltage. As the battery voltage climbs yet higher as charging continues, the triggering angle of SCR2 advances each half cycle until eventually SCR2 is triggering before the input sine wave has sufficient magnitude to trigger SCR1. With SCR2 on first in a half cycle, the voltage divider action of R1 & R2 keeps CR1 back biased, & SCR1 is unable to trigger. Heavy charging then ceases. Diode CR3 & resistor R4 may be added, if desired, to trickle charge the battery during the normal "off" periods. Heavy charging will recommence automatically when VR drops below VZ & SCR2 stops triggering each cycle.

When setting up this circuit I found it difficult to get the circuit to regulate down low enough in voltage. The problem was to get the right value of resistors R1 & R2 to operate with SCR1. To overcome this I connected a 1.2K pot across R1 & R2 & adjusted it to get the required maximum range of operation.

The unit is OK to float a battery with while operating a valve rig but SCR switching may be heard when operating solid state gear.

73'S VK7ZBL

BATTERY CHARGING REGULATOR



ALL RESISTORS $\frac{1}{2}$ WATT EXCEPT AS NOTED
RATING OF R7 DEPENDENT ON GATE I VALUE
OF SCR1

SOMERSET JAYCEES HOBBIES EXHIBITION

On 10th/11th June the Somerset Jaycees are holding a hobbies exhibition. A feature of this will be an Amateur Radio display, including a working station. Anyone who can assist with equipment, displays or help in any way contact Kirby Cunningham, Shane Fuller or Stephen Russell.

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For anyone interested in Optical Astronomy, the 22nd June is their lucky night. The Telecom Society is holding a lecture/discussion in Burnie at the Marist Regional College at 8 p.m. - Cost FREE. The lecturer will be DR. M. D. WATERWORTH, Head of the Optical Astronomy Research Group at the University of Tasmania - This should be an interesting and educational evening.

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NORTHWEST BRANCH NOTES

by JIM VK7MOI

Another well attended meeting was held in Lakins Hall, Ulverstone, on Tuesday 9 May when we had an attendance of around 30. Visitors included Peter Frith VK7PF and Allan French of Lynyard.

Before the meeting commenced, one minute's silence was observed as a mark of respect with the accidental death of member Ray Maxfield of Ulverstone.

The minutes of the last meeting were read by the Secretary and the Treasurer's report was read by Ivan - VK7MOA/2OK.

Paul Blake, VK7ZPB was elected as Council Rep. Robert Jordan of King Island was elected as a member of the A.I.A. John, VK7AE has been elected as Patron of the A.I.A. (Tas. Div.).

Peter, VK7PF gave a most informative talk on such matters as the frequencies to be submitted at WARC 1979, and also on the cost involved in sending our representative to WARC.

Also, general topics of Federal activities were discussed and were well received. The extra 50kHz section which has been granted - or soon to be granted - to novices in the 80M Band met with great approval.

Parliamentarian, Mr. Ray Groom, will give an informative talk at next month's meeting and we would like a good roll up.

Max, VK7MX gave some information on the progress of the new repeater for the Coast. The present one in use, kindly loaned by the Southern Branch, has been offered to us at an acceptable price. It was agreed at the meeting to purchase the repeater. Max also gave an informative talk on Regulations, especially regarding Third Party Traffic and in view of the points he highlighted, it would be wise for us all to "read the fine print".

Bob Cropper, VK7BY went to a lot of trouble in preparing some very informative charts for his talk on "Speech Processing", and gave a very professional lecture. Bob suggested that when one hears, for instance, the word "Sat" from a SSB Receiver - you DO NOT in fact hear the first syllable "S" because of the clipping effect of the filter. Try it sometime.

There was much lively discussion around supper, and it was most interesting to hear the reports of "processing" by various members.

Jim, VK7NCH, apologises for the shortage of "AR" this month, but would advise that he has plenty on hand HI!

Jim also advises of the receipt of an unusual QSL card from Sun City, Phoenix, Arizona. This was a packet of "Cactus Candy" made from several ingredients including the juice of the Prickly Pear (Cactus).

This is just one interesting fact of AMATEUR RADIO.

This wraps it up for this month.

VY 73

Jim VK7NOW

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DX NOTES - By COL, VK7LZ

Although some of the goodies mentioned last month didn't eventuate, I feel sure that the DX gang would not be disappointed. C31AC and C31PH both showed up on time from Andorra, ZK2AV and ZK2TT made most VK7's happy, particularly with their 21 and 28^m/_{hz} activity and although the Y1 didn't help us, more activity is promised from Iraq in the future.

The DXpedition by F29JS and F6CYL to Cocos Keeling was postponed until the 31st May and I hope you have VK9YL and VK9YS in the bag before next month's notes are read.

A look into the crystal ball and we see VK9ZR scheduled for August from Mellish Reef with Harry VK2BJL in the driver's seat whilst Bill VK9ZM looks almost certain to return to Willis Island in June.

ZS4MG advises that a station will be signing H5KAC from South Bophathutswana before these notes are in print, this will be a permanent licence with high power to good antennas.

A large scale expedition to Chatham Island is scheduled for operation from 27th October through to 6th November. Six operators will participate and operation will be on SSB and CW and all bands 160 through to 2 metres. Oscar 8 will also be used - more about this later.

Although 7HL hasn't been heard lately, 7BC has picked up a few new ones, 7CH roused out OE5CA/YK on CW, but missed out on ZD5SA. 7AE and the novices have been doing alright with their low power, 7NAB nabbed UB5VAZ on 28 mhz for a new country, about the best I could find was HV3SJ in Vatican City. 7DK now has his 50 foot tower up and is mounting the rotator - competition is sure building up.

Some of the best stations logged here during the month were; bearing in mind that several others (some of which are still on the secret list) were logged by other licencees -

28 mhz C21AA, KG6JLL, KP4KK, UA4SAX, UA6LBQ, UW9VA, UB5VAZ, XL1J, YJ8KM, YU2RQG, ZS2ER, ZS5BH, ZS4MG/H5, ZK2TT, 7Q7ZE, 9J2GJ.

21 mhz ISWWL, ZK2AV(CW), ZK2TT, ZS2ER, ZS2OM, ZS4MG, ZS4MG/H5, 9J2GJ.

14 mhz C31PH, CN8AK, EA8QL, EA8LO, HC5PC, HV3SJ, LX1PS, LX1RC, LU2HAR, M1D, GM2BMJ, TJ2P, UF6VAG, VO1EJ, UR2QA, VR8O, VS5MM, ZK2TT, 5T5ZR, 9G1JU, 9G1RB, 9H1EV.

QSL Information

CN8AK via WA3HUP HV3SJ via W6KNH 9G1RB c/o VE3AER

VY8CA via WA4SSU
9G1JU P.O. Box 1835, Kumasi, Ghana.

VK9YS and VK9YL & stations QSL to K4UTE
all others to F6CYL.

5T5ZR B.P.202, Nouakchott, Republic of Mauritania, West Africa.

ZK2TT Baruch Sheinberg, 4 Pinqas St., Tel-Aviv, 62007. Israel.

A self-addressed envelope and an IRC will be necessary if you want a ZK2TT QSL.

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"RF PROCESSING - GOOD OR BAD" by JIM VK7NOW

Much has been said and written re the merits - or otherwise of "Speech Processing". In my opinion, if used correctly, Speech Processing can be of immense value, especially when one is running low power under adverse conditions.

The better type of processor would appear to be the true "RF" Speech Processor. There are two popular types of RF Processors, one is the CRYSTAL LATTICE FILTER type and the other is the 'PSN' or PHASE SHIFT type - and of these, the XTAL LATTICE FILTER type gives the best audio response.

What is the advantage of an RF Speech Processor?

Briefly, it "fills in the holes", or maintains "the average power" of a transmission. It is so good that under conditions of heavy QRM/EXICO, it means the difference between a "contact" or "no contact". An efficient XTAL LATTICE FILTER type processor gives an increased "Talk Power" of around 6 DB.

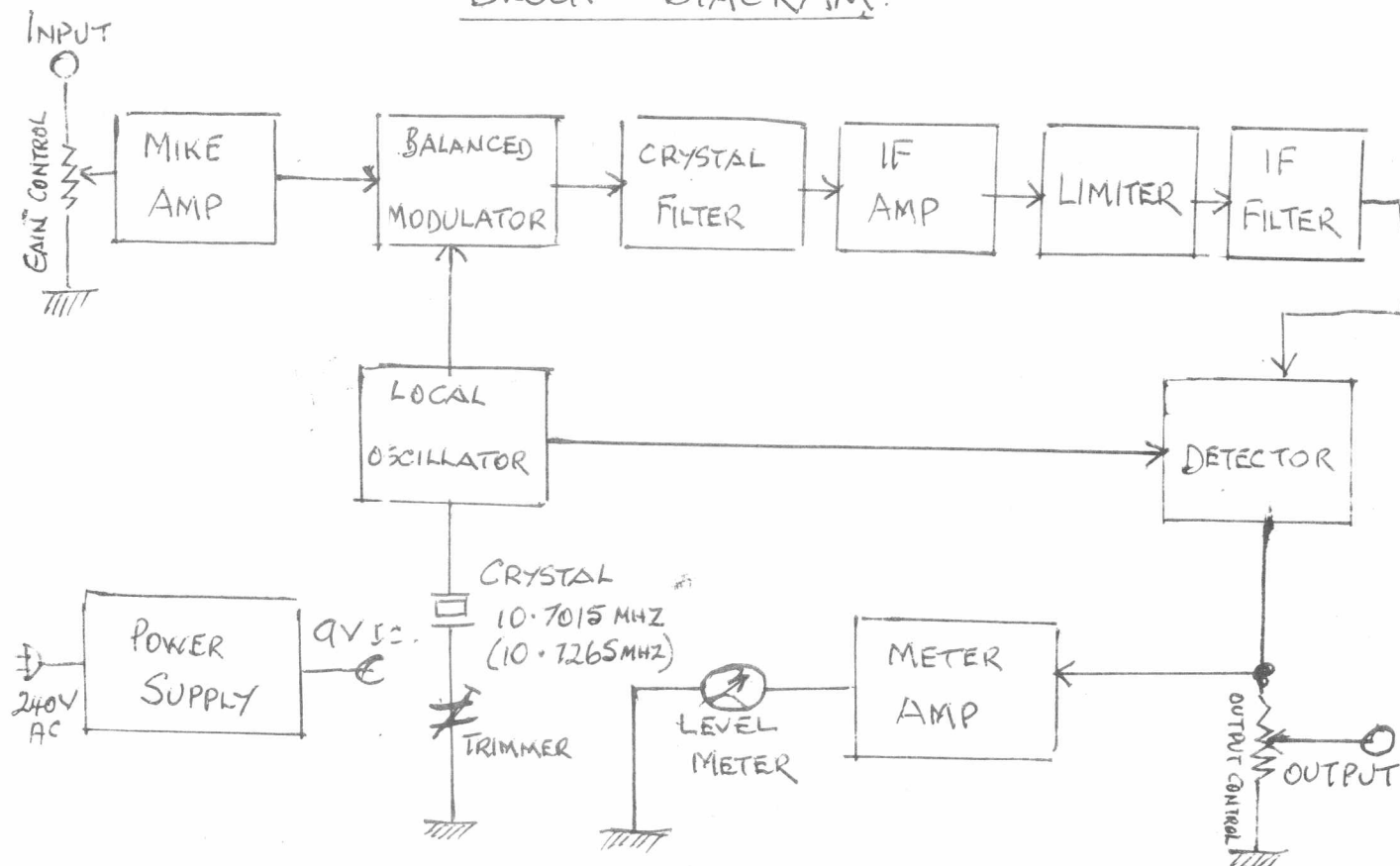
I have had QSO's under adverse conditions when the operator at the other end has said "Your signals are Q5 - you are not moving the 'S' meter but you sound like S5". Under these conditions, with the processor switched out, the contact would have been lost.

A large number of operators "over drive" the OUTPUT of their Processors. This is fatal. Your input level can be checked on your 'LEVEL METER' but the 'OUTPUT' can be "wound up" too far. A reliable, simple method of checking the "Processed Output" is to patch the "output" of the Processor into the 'LINE INPUT' of a good quality tape recorder - say a "few words on behalf of the working class" and play it back. You will soon hear when you have found the correct setting.

I have had many complimentary remarks passed regarding the audio quality of my transmission from many countries in the world using two popular makes of RF Speech Processors. Broadcasting stations use them so they can't be too bad.

Illustrated is a Block Diagram of a better type Processor. You will see that it is virtually a SSB Rig in its own right.

BLOCK DIAGRAM.



SOME LAWS YOU MIGHT NOT HAVE HEARD OF!

MURPHY'S FIRST LAW If anything can go wrong, it will.

MRS. MURPHY'S COMMENT Murphy was an optimist.

MURPHY'S FOURTH LAW If there is a possibility of several things going wrong, the one that will cause the most damage will be the one to go wrong.

FRANKLIN'S RULE Blessed is he who expects nothing for he shall not be disappointed.

JONES' LAW The man who can smile when things go wrong has thought of someone he can blame it on.

THE BUTTERED-SIDE DOWN LAW Any object will fall so as to do the most damage.

MRS. MURPHY'S COROLLARY You cannot determine beforehand which side of the bread to butter.

ZYMURGY'S LAW OF EVOLVING SYSTEM DYNAMICS Once you open a can of worms, the only way to recan them is to use a larger can.

THE HOW COME IT ALL LANDED ON ME LAW Whatever hits the fan will not be evenly distributed.

GRANDMA'S AXIOM A chicken doesn't stop scratching just because worms are scarce.

MOER'S TRUISM The trouble with most jobs is the resemblance to being in a sled dog team. No one gets a change of scenery except the lead dog.

BUNK CARTER'S LAW At any given time there are more important people in the world than important jobs to contain them.

WILKERSON'S LAW The anatomy of any academic group includes four kinds of bones:

1. wish-bones - go along with any idea but want others to do the work;
2. jaw-bones - talk a lot but do nothing.
3. knuckle-bones - knock everything everyone else does.
4. back-bones - who do all the work.

PROFESSIONAL RULES FOR DECISION AVOIDANCE

1. When it is not necessary to make a decision, it is necessary not to make a decision.
2. If you can avoid a decision, do so without delay.
3. If you can get someone else to avoid a decision, don't avoid it yourself.
4. If you can't get one person to avoid the decision, appoint a committee.

DEFINITION OF A COMMITTEE A collection of the unfit chosen from the unwilling by the incompetent to do the unnecessary.

FANDEL'S RULES FOR ADMINISTRATORS

1. Hide!
2. If they find you, lie.

IMHOFF'S LAW The organization of any bureaucracy is like a septic tank - the REALLY big chunks always rise to the top.

THE GOLDEN RULE Whoever has the gold makes the rules.

NORTHERN BRANCH NOTES

by MAURICE, VK7JU

The Branch Meeting was held on 12/5/1978 at the Bourke Street Clubrooms. The President, Joe VK7JG welcomed all members and submitted applications for membership on behalf of Leslie Harper and David Simpson. A request was received from Mike Hennessy on behalf of W.I.A. Division to take over the Post Office Box 1010, held by the Northern Branch; the Northern Branch to be provided with a new number in lieu and reimbursed accordingly by Division. The request was agreed to subject to satisfactory arrangement regarding another P.O. Box.

Approximately 12 mobile 2 metre stations were made available for WICEN exercise in conjunction with the Australian Equestrian Trials staged at Relbia by Northern Tasmanian Equestrian Club and the Examiner Daily newspaper. Full details to follow in A.R.

It was resolved that Bob, VK7ZRF be granted funds to purchase a treated pole to allow antennae to be hoisted at the Bourke Street Clubrooms.

At the conclusion of the General Business, a very interesting lecture was delivered by Lindsay Dowl VK7ZLD, tracing the early history of telegraph and telephone pioneering and development from the early 1860's up to the present time in the State of Tasmania. The lecturer also traced early cable links for telegraph and telephone between Tasmania and Victoria before Federation and after formation of the Commonwealth and rounded off with future developments in regard to optical fibres in the communications field. Thanks, Lindsay.

73 es till next month

Maurice VK7JU

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NEW CALLS

Please let QRM know of new call sign holders so that we can ensure they get a copy of QRM.

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HEARD AROUND!

With this meter I can measure my own SWAR or by putting it in reverse I can tell what sort of SWAR you're putting out - Good Buddy!

Give a count from 1 to 10 so that I can squelch you in!

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FROM BILL TANNER ON CLUBROOM MANAGER

Would members please note that we share with Lifelink all but our own workshop; we do not own the building (unfortunately). Any meeting envisaged or other usage can only be satisfactorily arranged by mutual discussion between the WIANB and Lifelink, if you cannot do this, I will. The earlier you book the place the more certain your operations will be OK.

As Clubroom Manager, all I want is to know anything that affects our clubroom or is going on in relation to it. I do not intend to be obstructive as my main function is to maintain liaison with all concerned and get for members (if humanely possible) their pet achievement or requirement under way. But, remember, I'm not in the spirit world yet, I cannot read your mind!

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JUNE PERSONALITY

VK7RH

Rob n Laird Harwood, nickname "Rob", first licensed in 1971. Rob is interested in CW and also likes cooking. Not interested in short "Hello", "Goodbye" type sos - really likes to get to know the man on the other end - hopes one day to get an RTTY. Other interests include music, reading, theology, writing. Current gear is FT 200 transceiver, MK6's, FRG7 receiver with 6 and 2 metre convertor.

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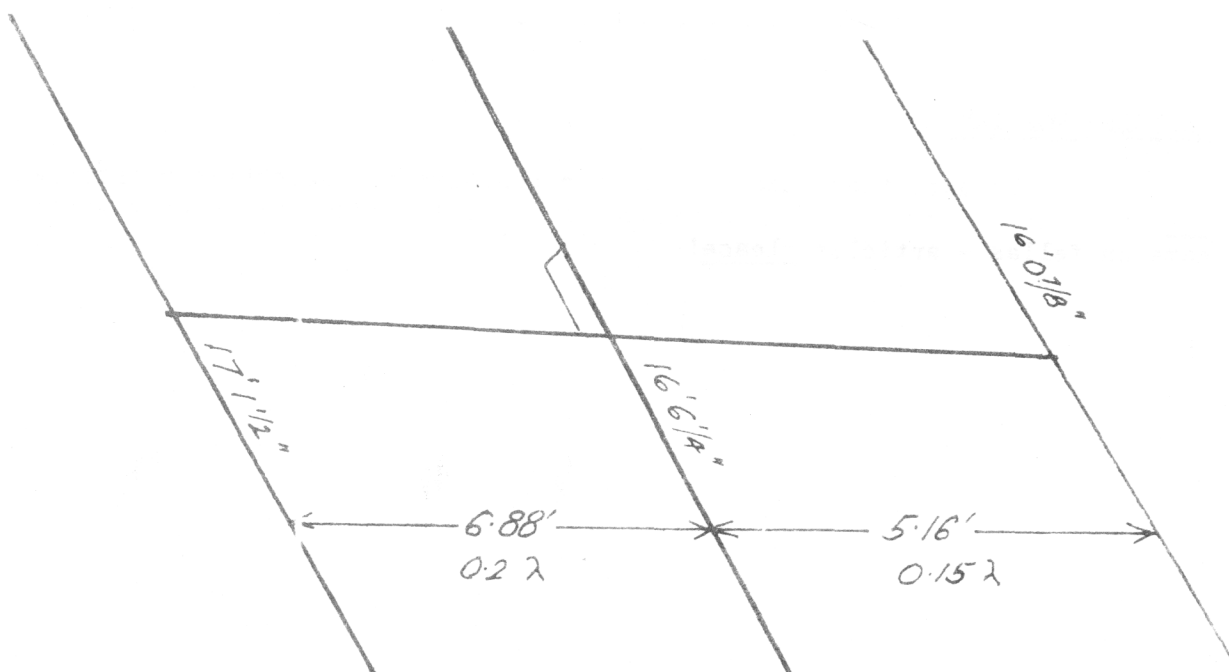
AN ECONOMICAL 10 METRE BEAM

by BRIAN YOUNG, VK3BBB

After hearing many reports about how good 10 metres is likely to be in the next couple of years, I made an effort to listen on this band. The only aerial that I had which was anywhere near the frequency was an 11 metre 5/8 ground plane. Several contacts were had using this system but of course it was far from optimum.

I acquired an 11 metre 3 element beam and decided to cut it down for 10 metres. This beam had a 12 foot boom so this somewhat determined the maximum theoretical gain.

The gamma match was not altered, only adjusted. It came down to 1.3:1 or less across that part of the band in which I was interested. It was centered on 28.5 MHz. The first 7 contacts were 7 different countries, and I find that it works really well. There is no way of determining the gain because of limited facilities. Anyhow, I am pleased with it.



TELEVISION SYSTEMS - PART III

MALCOLM, VK7ZMM

In order to further understand the television system as with respect to the frequency taken up by a signal it is necessary to understand the frequency spectrum of a square wave. You may ask WHY a square wave? Well, a square wave is the most fundamental of the "complex waves". Complex waves can be considered as being formed by the algebraic sum of a large number of component sine waves. To construct a square wave it is necessary to add in the correct phase and with the amplitude all the odd harmonics to infinity of the fundamental frequency of the square wave. It is only necessary in theory to sum the harmonics to infinity as in practice the higher order components become small and insignificant in amplitude. To obtain the desired result all the components must begin at zero at the same time and the amplitudes must be according to the reciprocal of the order of the harmonic.

Therefore a square wave consists of:-

fundamental sine wave

+ third harmonic of a third the amplitude

+ fifth harmonic of a fifth the amplitude

+ seventh harmonic of a seventh the amplitude

+ + + + + + + + + +

APOLOGY

I must apologise for the late delivery of QRM - My family were involved in a car smash and I've been very involved in getting everyone and everything mobile.

MAC VK7CCC

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ARTICLES FOR QRM

To date there has been little response to requests for articles. One from the NW area with the remainder from staff around Launceston Airport - come on fellas - articles please!

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