

OCTOBER
VOL. 1 No. 6

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PRICE 5¢.

Let's take a look at the progress of the Northern Zone over the last 6 months, after all there have been a few changes and additions.

The most exciting change must surely be the increase in membership: from 18 last year to 69 this year, not counting subscribers to QRM not living in the North. The increase is mainly due to the Bulletin QRM, backed up by a membership drive. QRM will no doubt take first place as the best addition, (considering we have always had an equipment store of sorts). Thanks to an enthusiastic group, we have been able to keep it filled with news and information.

The equipment store has gone independent and now buys its stocks direct from VK3 division and other sources. This has resulted in an increase in turnover from \$242.00 last year to \$932.00 in the first 6 months of this year.

One change I haven't mentioned - THE MEMBERS. With larger numbers attending meetings and volunteering for every job that needs doing - that is the most important change!

Now the question arises - what of the future. Well there are lots of things we still need.

Our own clubrooms for instance, where we could have our meetings without the threat of having to move, where we could have social evenings and even a Hamshack to use the club call VK7MZ.

A much more urgent requirement is even larger attendances at our meetings, so how about Y O U coming along for the next one.

JOHN, VK7JV.

COMING EVENTS

- | | |
|------------------|--|
| OCT. 5th | NORTH WEST MEETING, LAKIN'S HALL, ULVERSTONE |
| OCT. 8th | NORTHERN ZONE MEETING, ADULT EDUCATION BOARD ART ROOM,
8 HIGH ST. LAUNCESTON. |
| OCT. 16th & 30th | YRCS CLASSES AT KINGS MEADOWS HIGH SCHOOL, BLOCK B, ROOM 38 |
| OCT. 16th & 17th | JAMBOREE ON THE AIR |
| OCT 2nd & 3rd | VK-ZL CONTEST (PHONE) FROM 10.00 GMT OCT 2nd TO 10.00
GMT OCT 3rd. |
| OCT. 9th & 10th | VK-ZL CONTEST (C.W.) FROM 10.00 GMT OCT. 9th TO 10.00
GMT OCT. 10th. |
| NOV. 27th & 28th | HAMFEST IN EVANDALE. |

THE GENERAL MEETING of the Northern Zone was held on Friday September 10th with an attendance of 33 members.

The Treasurer presented his financial report and audited half yearly Balance Sheet.

The Secretary read a letter from the West Launceston Boy Scouts group requesting help for the forthcoming Jamboree on the air. CHRIS 7UX and NORM 7ZNR volunteered for the job.

PETER 7PD spoke on the possibility of installing a beacon for 2 and or 6 meters in Launceston. Peter mentioned that he has had recent discussions with VK3 amateurs who thought it a marvelous idea. The reason being that often the bands are open to the H.W. and not to the NORTH and vice versa. PETER 7PD, JOE 7ZGJ and BRIAN 7ZBY volunteered to form a committee to investigate and report.

The meeting closed at 9.35 and 11 members showed the equipment they have constructed in the past year. Items included a

SPEECH AID IN THE FORM OF A METRONOME, ALL WAVE 4 RECEIVER, TRANSISTOR RECEIVER, C.R.C., TELEPHONE EXCHANGE, 6 METER TRANSMITTERS, VHF CONVERTERS, ANTENNA BRIDGE, G.D.O., 2 METER TRANSVERTER, FREQUENCY SYNTHESIZER, and commercial equipment.

AT THE NEXT MEETING DEN 7DK WILL GIVE A TALK AND SHOW A FILM ON HIS TRIP AROUND AUSTRALIA.

BEVAN 7CX urgently requires ideas, circuits or working models of an amphetamine detector which must alert the driver at least 100 yards before the speed trap. We believe Bevan has recently came across a device which does this except for the 100 yard bit - it's in the form of a man in a blue uniform.

JOE 7ZGJ had a different approach when a police car came up behind him - he accelerated and lost him! This worked until he reached the next town and slowed to the usual 35mph limit. There he was overtaken and presented with an account for \$40.00.

TREVOR 7TB is building a 6 meter transverter. If everything goes according to plans we'll publish the circuit for this QRM MACHINE in a future issue.

NOTICED while driving to Hobart the other day that DOUG 7AB has a spider quad built and ready to go up.

IT APPEARS that the chap who calibrated the Dunny Load-wattmeter, which the Northern Zone has been selling, made a mistake in his calculations and all power reading should be doubled. However, a new conversion table (volts to watts) will be made up and sent to all those who purchased the kit.

LOOKS like the Yeasu people really know how to treat their customers. TREVOR 7TB had some overloading problems with his new FT101 Transceiver. At his request they sent him some modifications consisting of 3 completely re-designed modules being RF stage and 2 mixer stages, also a complete change in the aerial change over system. All this for a total cost of postage only!

S A L E

A SALE will be held on Saturday October 9th at the QTH of LEN VK7BQ, 102 Frederick St. STARTING 10.30am.

The equipment consists of H.F. Transmitters 20 W. Mod. 1 +

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NEWS is rather scarce this month!

Our meeting on 7th Sept. was well attended with 7JV and 7ZAH present, now some of our best attenders.

David 7MS came in waving the latest A.R. Patience rewarded and this saga is now concluded.

A considerable quantity of gear came to hand for disposal and was handed round at give-away prices. Members who failed to attend missed out on some real goodies!

Some left-over items of various shapes and sizes finished up in Tony's Q.T.H. and may be yours for the asking if they don't reach the garbage area first.

We identified our old friend John Webster in the multitude. Forgot what you looked like John.

Some details of the coming Hamfest were outlined and we feel that very strong support will be forthcoming from this Zone. It promises to be an event to remember. Apparently the Zone has discovered a hidden cabaret star for the Saturday evening show. Patrons are advised not to miss this oddity!

LES 7LH is putting the finishing touches to a new 2 metre beam. Does anyone know for sure how to feed a 6 over 6 skeleton slot with 300 Ohm feeder.

BRIAN 7ZBE has installed the new Beacon complete with a sophisticated antenna and from reports it is going very well. Unfortunately the Devonport Council missed out on the services of our Zone contender. Too many tuned circuits resonating in the wrong places Brian!

BOB 7ZGR was heard at good strength from Penguin way the other night with a new 2M. mobile installation. Morse QRM.

The 2M. FM net appears to be somewhat quiet at present. How about some activity chaps.

KEN 7RH was proudly demonstrating a new H.F. commercial Transceiver at the meeting. It looks the last thing in black boxes. More Q.R.M.

OUR NEXT MEETING IS ON 6th OCTOBER. DO COME ALONG.

One for the Questions and Answers:

Is there any test available for a young lad on MORSE CODE. If so, what are the conditions and how would he go about it.

C U next Month.

N. W. ZONE.

ANSWER:

The only tests for sending or receiving morse that we know of are in the form of PMG and YRCS examinations.

The PMG examination is of course at 10 WPM both receiving and sending for A.O.C.P. YRCS have morse tests as part of their S.W.L. certificates with speeds of 5, 8 and 12 WPM.

There are slow morse transmissions at 7.30 EAST every night on 3.550 MHz starting with 4 WPM and increasing to 18 WPM. Pre-recorded tapes are available for hire from VK2 division WIA for a very modest charge. For any further information for any of the above, write to the secretary of your nearest division or zone of the WIA.

AMATEUR TELEVISION A.T.V. (Part 2)TEST EQUIPMENT.

Like most of electronics a certain amount of testing gear is essential.

Here are some of the more necessary ones for A.T.V.

1. C.R.O. (Wideband - 6MHz)
2. Sensitive multimeter or V.T.V.M.
3. Various Pattern generators:-
 - (a) Step generators.
 - (b) Grating Generator (or crosshatch)
 - (c) 2T Pulse & Bar Generator (A luxury but still very handy)
4. At least two monitors.
 - (a) Closed cct. - Composite Video Monitor.
 - (b) Off air Monitor - Standard TV with attached UHF converter.
5. Sweep Generator.

From the above the most useful is the C.R.O. being virtually your right hand man, bearing in mind that most of the waveforms in a T.V. system consists of D.C. pulses and not always A.C. waveforms. A C.R.O. is thus a useful and accurate method of measuring these as it is often the peak voltage that we are concerned with. A C.R.O. is also very useful for bandwidth measurements in conjunction with the sweep generator. The step generator is used for gamma or linear light ratio checks in 10 steps from black to white. The grating generator is useful for linearity checks. The 2T pulse and bar generator is used for an overall check of the system, but is not absolutely necessary but very nice to have. The closed cct. monitor can be standard T.V. modified slightly. The composite Video signal (complete Video plus sync pulses etc.) is connected into the input of the video amp of the T.V. receiver. The T.V. used, should be one where the sync pulses are taken after the video amplifier.

The other obvious method of testing the overall performance of T.V. system is by use of a standard resolution chart (Test Pattern) in conjunction with a flying spot scanner or live T.V. Camera. The use of the Test pattern when correctly interpreted, can yield a great many things such as frequency response,

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Next time I hope to touch briefly on the closed cct. concept.

TONY VK7AX

(Continued from September Issue) (Copy from AMSAT Newsletter)

AMENDED TECHNICAL PROPOSAL FOR AN ATS-G SYNCHRONOUS AMATEUR RADIO TRANSPONDER EXPERIMENT

PREFACE

The SYNCART experiment employs a low-power linear repeater designed for operation aboard the NASA ATS-G Applications Technology Satellite with small amateur radio stations on the ground. The transponder will consume less than twenty watts of prime power from the spacecraft and will weigh approximately 5 pounds. The package will be designed to operate within the presently allocated two meter and seventy centimeter amateur bands.

1. MISSION OBJECTIVES

The SYNCART experiment is designed to use stations in the amateur service to provide educational training, "bush" communications to medical centers in isolated areas. The repeater will also be used for multiple access experiments, a satellite-to-home voice and slow scan TV broadcast experiment, and possibly a space-to-space amateur satellite relay experiment. All of these experiments will involve the use of small amateur radio stations as earth terminals, but will provide services to many outside the amateur community itself. (At this point our proposal went into detail describing each of the uses listed above.)

2. SYNCART DESCRIPTION

SYNCART is a multi-channel, low power-consumption linear repeater designed for operation in the amateur radio service in the international portions of the amateur two meter and seventy centimeter bands. The repeater will be designed to interface with ATS-G Applications Technology Satellite according to specifications to be developed jointly with the NASA ATS Project Office. The prototype and flight hardware will be furnished to NASA by AMSAT on a non-funded basis. The repeater will be designed to consume less than twenty watts of prime power from the ATS-G spacecraft, and is intended to be available for continuous operation by amateur users, except during eclipse or other such times when demands on the ATS-G power subsystem by other experiments may require it to be operated in a reduced power mode or to be shut off temporarily.

The repeater will be designed to operate within input (uplink) signals between 145.75 and 145.95 MHz (i.e. with a 200 KHz bandwidth) and will re-transmit these signals between 432.1 and 432.3 MHz with an RF power output of 20 watts PEP, 5 watts average. This repeater RF output power level will be maintained by an automatic gain control circuit which will be controllable from the ground to also provide a low-power mode.

The SYNCART repeater will be controlled by ground command through the regular ATS-G NASA command system. It is expected that no more than eight command functions and six telemetry functions will be required to control and monitor the SYNCART experiment.

The thirty-foot aperture of the parabolic reflector planned for ATS-G should prove nearly ideal for SYNCART, providing gains of approximately 18 dBi for both the up and down-links, and providing full earth disc coverage. The resultant EIRP should be in the neighborhood of 30 dBW (one kilowatt) yielding signal strengths on the ground comparable to those achieved with the VHF repeaters on the ATS-1 and ATS-3 Applications Technology Satellites.

The SYNCART linear repeater will employ the "envelope elimination and restoration" as developed for AMSAT-OSCAR-B to achieve high efficiency class C operation and retain linearity. It will be designed to handle 20 to 50 simultaneous single-sideband, telegraphy or teletype signals in its 200 KHz bandwidth. Ground station EIRP of 1kw should produce full repeater output and give a 30dB S/N ratio in a ground receiver with a 6dB noise figure, 13dBi antenna gain and 2KHz bandwidth.

The SYNCART package will include a low-power edge-of-band beacon which will be keyed in Morse code with messages stored by a "CODESTORE" message storage unit similar to hardware developed for AMSAT-OSCAR-B. This will permit bulletins and messages to be stored in the satellite for periodic retransmission in Morse code.

It is envisioned that the SYNCART repeater will be able to use

amateur radio stations on the ground. The transponder will consume less than twenty watts of prime power from the spacecraft and will weigh approximately 5 pounds. The package will be designed to operate within the presently allocated two meter and seventy centimeter amateur bands.

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It is envisioned that the SYNCART repeater will be able to use antenna feeds planned for the ATS-G 136/148 MHz telemetry and command systems for receiving the 146 MHz uplink signals. A separate feed will be required for the 432 MHz SYNCART transmitting antenna, and it is expected that circularly polarized fourteen-inch crossed dipoles will be suitable for this purpose.

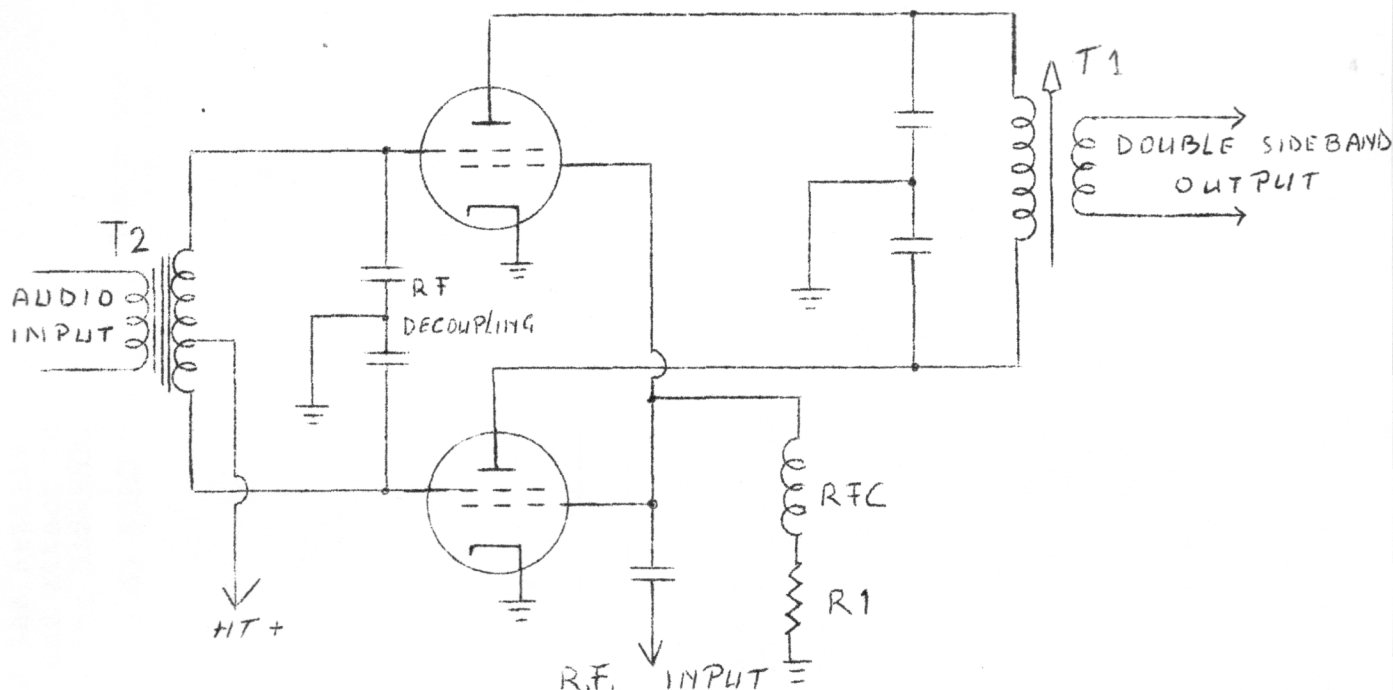
Q. R. H.

BULLETIN OF NORTHERN ZONES W.I.A. TAS.....OCTOBER, 1971.

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HOW DOES IT WORK:

A BALANCED MODULATOR



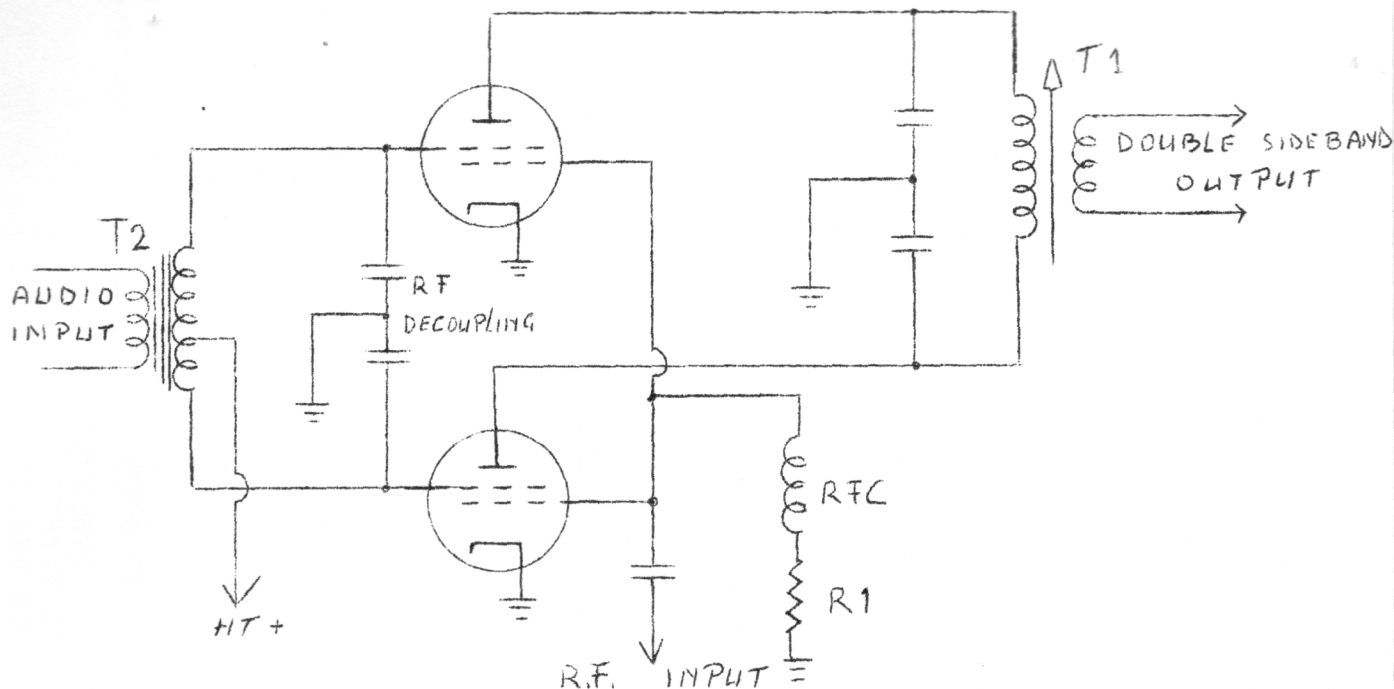
You may say, why describe a valve type! On the surface this circuit may look a little complex, but with a few minutes reading I think you will agree that it is a straight forward explanation to a fundamental circuit.

The control grids of both valves in the modulator are connected together and both receive the r-f carrier signal from the previous oscillator. The plate of each tube, however, is connected to opposite ends of the primary winding of the output transformer T1. This means that the plate currents of each tube flow through the output transformer in the opposite directions, with the net effect that their magnetic fields cancel each other and no output carrier signal is developed across the secondary winding.

Thus, since each modulator tube receives the same input, and produces no net resultant carrier output, the carrier never appears in the output circuit.

Audio voltages are applied to the modulator tubes through another transformer T2, which brings these voltages to the screen grids of the valves. The audio voltages on the screen grids are 180° out of the phase with each other. (180° phase difference across a centre tapped inductor). Thus, when the plate current of one of the valves is made to increase by the audio modulation voltage, the plate current of the other tube is decreased. This unbalance will cause r-f voltages to appear across the secondary of T1 and these r-f voltages, varying at an audio rate, will be the upper and lower side-bands. There will be no carrier present, however, since the modulator is balanced for the carrier. It is not balanced for the side-bands and these do develop.

IAN PRAMSON 7XB needs H E L P! As VK7 INTRUDER WATCH co-ordinator. As I'm said on the broadcast it is quite impossible for anyone to monitor all the bands at any one time or for that matter monitor any one band all the time. So here is your chance to help Ian and at the same time do something about those intruders instead of worrying about them. Fill in an intruder report form and



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IAN PEARSON 7KB needs H E L P! As VK7 INTRUDER WATCH co-ordinator. As Ian said on the broadcast it is quite impossible for anyone to monitor all the bands at any one time or for that matter monitor any one band all the time. So here is your chance to help Ian and at the same time do something about these intruders instead of grumbling about them. Fill in an intruder report form and forward it to Ian. Forms are obtainable from your zone secretary.

FOR SALE

1 - CE20A PHASING EXITER WITH 458 VFO, COVERS 160M-10M. COMPLETE WITH MANUAL - \$100.00.

PARTLY BUILT COMMUNICATION RECEIVER WITH GELESO FRONT END ALL COMPONENTS MOUNTED, NEEDS WIRING - \$35.00.

122 TRANCEIVER MODIFIED WORKS WELL 807 FINAL COMPLETE WITH CENTRE LOADED WHIP \$40.00.

KEN HANCOCK VK7KH.

TRADING POST

Name _____
 Address _____
 CALLSIGN _____ Phone Home _____
 Bus _____

REGISTRATION FEE Single \$3-50 \$ _____
 Family or Double \$5-00 \$ _____

SUNDAY ONLY per person \$1-00 \$ _____

Please find enclosed cheque for \$ _____

A small number of tentative bookings have been made at Rubina Joy Guest House and Travelodge Motel.
 Bookings required at _____

Motel/Hotel/Guest House for _____ persons

Double ☐ Single ☐ Family ☐

Camping is available at the Evandale Show Ground for a small fee.

I will require Caravan/Tent Site Power required Yes/No

I will have gear for TX HUNTS on :-

52 AM net ☐ FM chB ☐ 40 M ☐ 2Msniffer ☐

Please make cheques payable to :-

W.I.A. Northern Zone, P.O. Box 1010, Launceston, T.A.S.

Further information can be obtained from :-

B. Yeoman 918288 R. Emmett 444181
 K. Henricks Bus. 321208, Home 469772
 STD AREA CODE 003

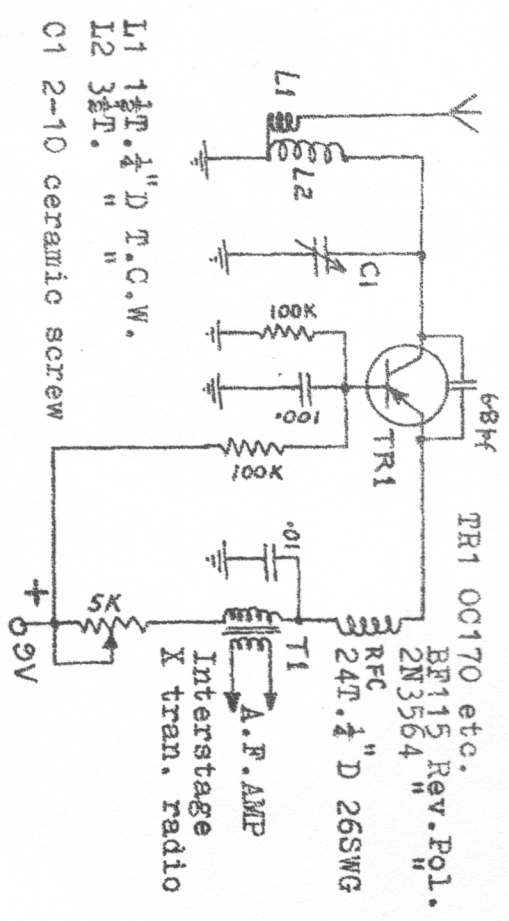
Please Return

cut along line

If you would like to BUY or SELL any equipment write the details in the space below and attach to the notice board at the HAMFEST.
 BRING ALONG EQUIP. TO BE SOLD

Name _____
 Callsign _____

HERE IS a circuit for a 2 M SNIFFER which would be suitable for 2M Sniffer Hunt.



further info. in June QRM

The Wireless Institute of Australia, Tasmanian Division wishes you and your family to attend the annual HAMFEST to be held on the 27th and 28th of November, 1971.

AT THE EVANDALE MEMORIAL HALL

This will be an attempt at a new style of hamfest which has never been tried in Tasmania before but is quite common on the mainland. For this type of Hamfest to be successful it depends on a large number of participants, so we hope to see you at EVANDALE ON THE 27th and 28th of NOVEMBER 1971.

Hamfest Committee.

Programme

TALK IN CONTINUOUS FROM 1200 HRS ON SATURDAY 27th

VHF --- FM chB net, AM 52 MHz net

HF --- SSB 40 M

SATURDAY

1300 hrs

Registration
Rag Chew
Equipment Display
Carphone Checks
Trading Post

1800 - 1900

Buffet Style Dinner
(meal provided)

2000 hrs

Cabaret Hamfest Style
(refreshments provided)

Supper

SUNDAY

0930 - 1000 hrs

W.I.A. Broadcast

1000 - 1100

Yes/No chB & 52MHz TX Hunt

1115 - 1200

VHF Directional
chB Fox Hunt

1215 - 1300

Barbecue (meal provided)

1345 - 1445

DF Hunt 40 M

1500

Prize Giving and Coffee

Fold along this line

Carphone Checks

Have your carphone checked for frequency, power output and receiver sensitivity.

Equipment Display

Home Constructed & Commercial. If you have built anything, or bought anything which could be interesting to other members, bring it along for display. (Display both days)

Trading Post

Will continue for both days, have anything you wish to buy or sell?

Cabaret

Recorded Music, and items by members by 7MX. Any acts that might like to volunteer (or be volunteered by freinds) will be welcome.

TX Hunts

To be judged on a time mileage basis. Transistor Radios OK for DF Hunt.

Prizes

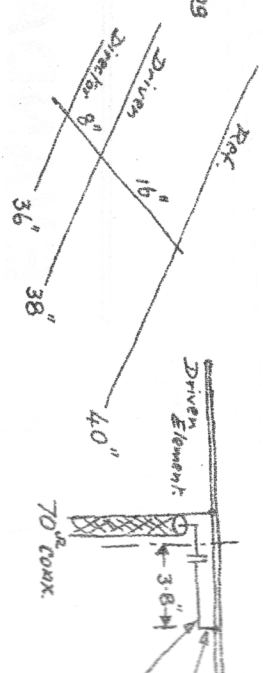
Will be awarded for:-

TX Hunts
Competitions
Best item home constructed equipment.

Data Sheets

Will be available free of charge.

Boom $\frac{1}{2}$ " tubing
Elements $\frac{1}{4}$ " "



144 MHz 3 Element Yagi
Suitable for VHF Fox Hunting

of Australia, Tasmanian Division
family to attend the annual HAMFEST
and 28th of November, 1971.
EVANDALE MEMORIAL HALL
at a new style of hamfest which
in Tasmania before but is quite
best to be successful it depends on
participants, so we hope to see you
on 28th of NOVEMBER 1971.

Hamfest Committee.

gramme

FROM 1200 HRS ON SATURDAY 27th
FM chb net, AM 52 MHz net
SSB-40 M

- Registration
- Rag Chew
- Equipment Display
- Carphone Checks
- Trading Post
- 900 --- Buffet Style Dinner
(meal provided)
- Cabaret Hamfest Style
(refreshments provided)
- Supper
- 000 hrs W.I.A. Broadcast
- 100 " Yes/No chb & 52MHz TX Hunt
- 200 " VHF Directional
chb Fox Hunt
- 300 " Barbecue (meal provided)
- 445 " DF Hunt 40 M
- Prize Giving and Coffee

Fold along this line

Carphone Checks

Have your carphone checked for frequency, power output and receiver sensitivity.

Equipment Display

If you have built anything, or bought anything which could be interesting to other members, bring it along for display. (Display both days.)

Trading Post

Will continue for both days, have you anything you wish to buy or sell?

Cabaret

Recorded Music, and items by members lead by 7MX. Any acts that might like to volunteer (or be volunteered by freinds) will be welcome.

TX Hunts

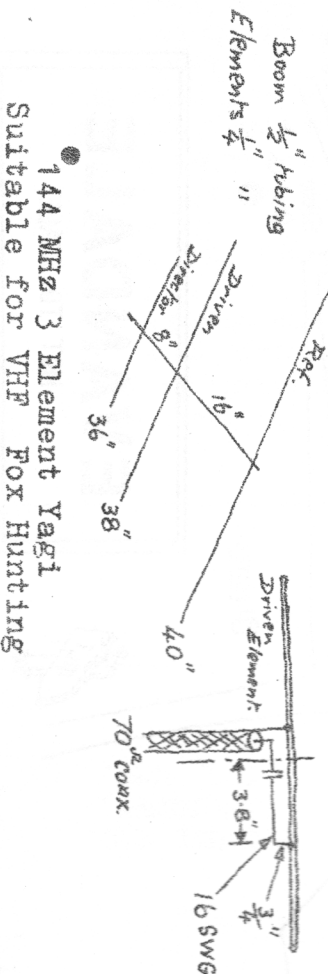
To be judged on a time mileage basis.
Transistor Radios OK for DF Hunt on 40 M.

Prizes

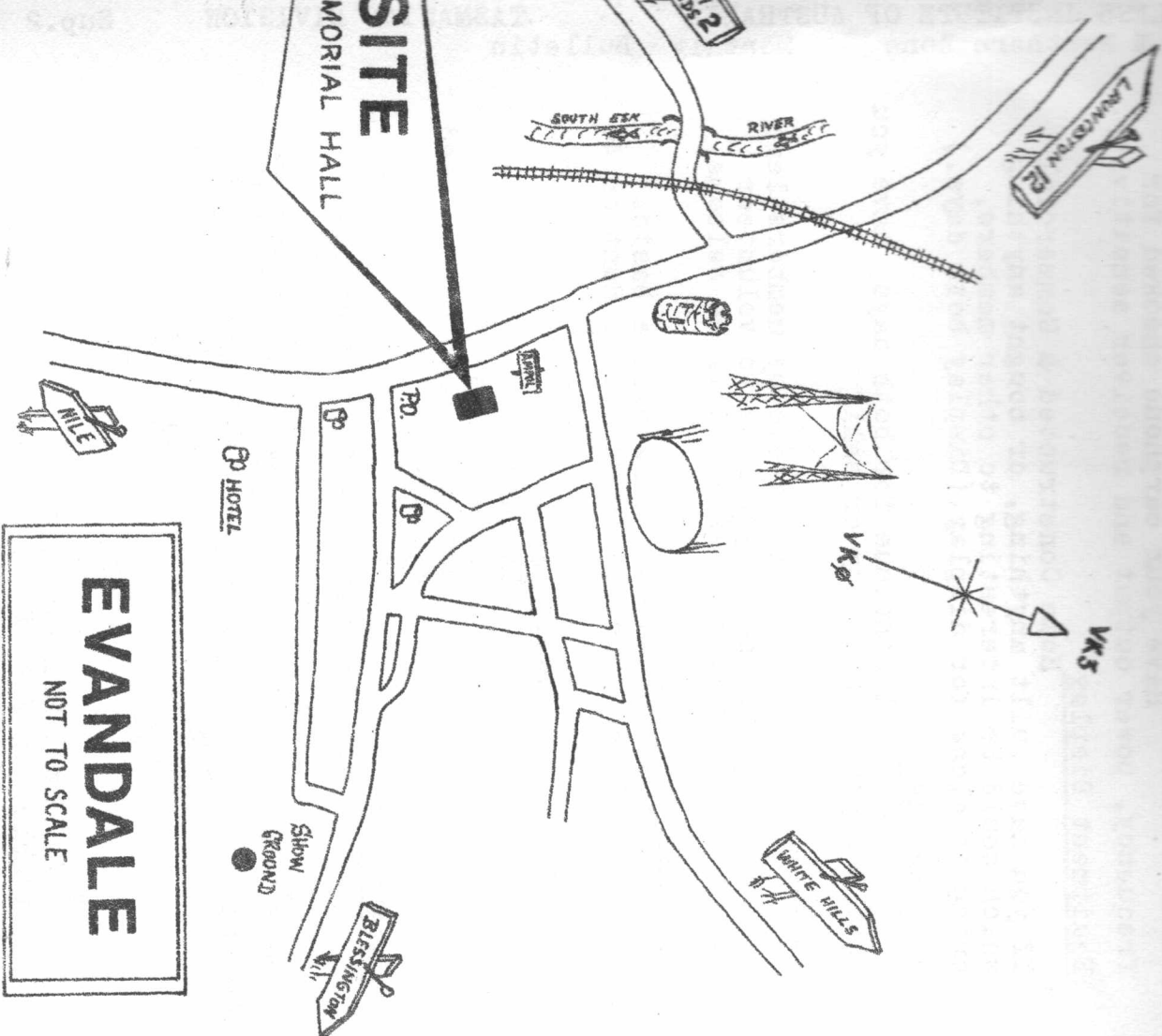
Will be awarded for:-
TX Hunts
Competitions
Best item home constructed
equipment.

Data Sheets

Will be available free of charge.



GUIDE TO HAMFEST



EVANDALE

NOT TO SCALE

VK7



HAMFEST
1971

EVANDALE

Nov. 27 & 28

