

SEPTEMBER
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Recent correspondence in A.R. indicates that there is continuing pressure for the introduction of a Novice Licence. It would also seem that the Fed. Executive and the P.M.G.'s Department are not in favour of such a proposal, although, Fed. Exec. seems to indicate, that should there be enough in favour, efforts will be made to have such a class recognised. I feel that in view of the American situation, a Novice Licence is not in the best interests of the amateur in this country, simply because it will be necessary to have spectrum made available, or alternately, existing space allotted. Just where would you place them. The general cry is, that we do not have enough space now. It is my view, that Novices are well taken care of in the form of school and University Radio Clubs. Here we have a situation where any student, without qualification, except interest, has all the benefits of the Z licencee and more. It should be our aim to raise the standards of our hobby, and I would say to those who could not care less, think about it, the A.O.C.P. is not all that hard to get. How can we justify ourselves by introducing a class of lower standard. Encourage those who are interested, and help them in all possible ways to join the ranks. Let's not lower our sights in any way. Remember daylight saving was nearly axed by the loud voice of a small minority and the same could apply to our frequencies.

QNZ, Bill, 7AK.

COMING EVENTS

- | | |
|--------------------|---|
| SEPT. 7th | North West Meeting, Lakin's Hall, Ulverstone. |
| SEPT. 10th | Northern Zone Meeting, Adult Education Board Room 10, at 8 High Street, Launceston. |
| YRCS CLASSES | on SEPT. 18th and OCT. 2nd at Kings Meadows High School, Block B, Room 38. |
| | VK-ZL CONTEST |
| NOV. 27th and 28th | HAMFEST - DETAILS LATER |

The General Meeting of the Northern Zone was held on Friday, August 13th. This was our first meeting in the new rooms at 8 High Street, which is quite an improvement over York Street. The room is approximately twice the size has carpets on the floor and best of all, the seats are upholstered.

Visitors to the Zone were TED 7EJ, PAUL VK1ZPB and BRIAN 7RR, although Brian can hardly be regarded as a visitor anymore. Added to this a membership attendance of 33.

Peter 7PF reported that the repeater application has been re submitted and that no interference to other services was apparent.

Some discussion took place on the suggestion of putting money aside for a club room fund. However the meeting felt that we shouldn't tie our money up in a fund as it would be difficult to withdraw if it should be required for another project. The meeting was then treated to a very informative talk on an electronic calculator by TED 7EJ after which the meeting closed at 10.00 hrs.

The next meeting will be an Equipment display night so if you have built something new in the last 12 months, bring it along. After all this we will be shown a film called "TRAVELLERS" from Phillips.

BEVAN 7CX obviously hasn't heard of Low Pass Filters to prevent harmonics. How about trying one for the fifth Bevan.

CONGRATULATIONS to BEVAN 7CX and ANNETTE on the birth of another son.

IF we ever need people for a working bee there is a group of people that are good at wrecking. I am referring to the group that went to 7EX to remove the old equipment: it took them half the time the 7EX people expected!

GORDON 7GW now moving ahead fast, his tower is up to 40ft. with only 10ft. to go. Gordon has a TH6DXX ready to go on top of it with an erector to swing it around. In the meantime he is on the air with the FT200 and G5RV antenna.

LOOKS to me like Tasmania could win the R.D. Trophy back although competition is tough, I have never heard so many VK4's on the bands. Please help this State win by sending in your Log, remember, if you haven't the time, give it to us and we'll write it out and send it off.

COULD be GEELONG AMATEUR RADIO CLUB is going to lose some members. I hear DARRYL 3AQR got quite a group together to go skiing. Let's hope they don't get too interested.

I WAS wondering why Tim 7ZX sold his FTDX100 but now we know. At the last meeting he ordered a new FTDX401 from the Northern Zone Equipment Store which we are still selling (at the moment of writing) for \$465.00 plus the usual 5% for the zone. These prices will be likely to be higher when you read this.

NORTH WESTERN ZONE NOTES

WE were all startled to see a handsome picture of 7ZBE in the local paper. Turns out that Brian is aspiring to local government. Hope you make it Brian. We could do with the slide rule in some of our local finances.

Ian E. is very busy lining up the equipment store. He is using his art as an expert carpenter in shaping sophisticated containers so that we will soon have a mobile store.

Sid 7SF turned up from Melbourne with a heap of RSGB publications - enough to start a book shop. To our surprise they were all snapped up very smartly at the meeting, and so we need more. A very studious crowd the N.W. Zone!

Graeme Rand our new Treasurer is taking a firm hold on the finances of the Zone, and the money is starting to circulate. He even dug a cheque out of the Secretary's wallet which shows he has a nose for the job, and the boys will be kept in line financially.

7AX has been in Hobart again. If ever we saw a paid tourist - enough said.

We were pleased to see RON 7AI at our last meeting. It seems that the confusion over his QTH has now been ironed out and he is now get-at-able.

COL 7KW had a nice spell on the holiday coast, contributing to keeping them aloft meanwhile. He was privileged to enter the junk shop - or - shack of 7MX and no doubt learned a great deal about the wrong way to do things.

DAVID 7MS was closely quizzed about his inability to find A.R. in his mail box. We suggested an eye test, sneak thieves and the F.B.I. etc. but was adamant about it. Keep hoping David!

DICK 7ZDF was home recently, dashing around in the limited time available. Once again the 7 MX junk shack was utilised, and a specialised transformer knocked up for an intricate piece of apparatus that Dick has on the skids. Never a dull moment when ZDF is home!

PETER ex 7ZPW has been in phone communication with our Zone. Why not 144 Pet? It has been done!

A QSO was "mailread" not so long ago when ZBE asked ZGR to procure a bottle of lemonade on the way over. Sounds a bit fishy!

HAROLD 7MZ recently came into a load of QSL cards. He was merely taking over the job of QSL Manager. No doubt these will be sorted and distributed in his usual efficient manner.

THE following is a list of office bearers - N.W. Zone:

PRESIDENT 7AX TONY

VICE PRESIDENT 7KH KEN

" " 7SF SID

SECRETARY 7MX MAX

TREASURER Ass. GRAEME RAND

QSL OFFICER 7MZ HAROLD

EQUIPMENT STORE Ass. IAN ELLINGS

Your office bearers don't mind the work involved and they solicit the support of every member. Roll up to meetings and make their job worthwhile. Let's make this a year to remember.

If anyone has done anything peculiar, meritorious or funny lately, please let your correspondent know. It might be news.

AMATEUR TELEVISION (A.T.V.)INTRODUCTION

After much prompting I have decided to write a short series of articles on basic amateur television principles. Firstly let me begin by stating that these are only basic ideas and can be expanded to suit each and every need. Many a comment when the word amateur television is mentioned, has been "I can't afford that kind of money required for A.T.V..." This kind of statement cannot usually be justified, as A.T.V. activities can cost no more than any other branch of our hobby "Amateur Radio".

Those interested in receiving A.T.V. need only to acquire a wide band UHF converter, a small UHF aerial and connect output of converter to aerial terminals of a standard T.V. receiver with the tuner set to channel 1. The T.V. receiver does not require modifying in any way. Interested yet. Read on.

Those interested in the other end of the transmission will need a little more gear. It takes quite a while to acquire the gear necessary for an A.T.V. station, and consequently a great deal of thought is needed when getting this gear together so as the end result is worthwhile. It is usual to set up your gear firstly in the closed circuit T.V. concept, and once the required performance is obtained, it can be connected to a suitable modulator and transmitter. A glance at your Regulations Handbook pertaining to A.T.V. experiments will show you the various standards allowed. If starting from scratch, I suggest you go for the commercial standards etc. as these are not too hard to obtain with present semiconductor devices.

The synchronising pulses form the heart of any television system, thus several designs should be pursued, before this part of the gear is constructed. Once a good sync. pulse generator has been constructed it can be used with any form of VIDEO whether it be from a flying spot scanner or live T.V. Camera. It is strongly suggested that all those interested get together and pool their design ideas to achieve better results. Slow scan Amateur Television (SSATV) is another activity and I may have a little to say on this subject at some future time. Next article I will outline the basic equipment requirements for A.T.V. In the meantime start thinking about that A.T.V. converter and borrowing your "Second Best Friend's" T.V. receiver.

TONY (VK7AX)

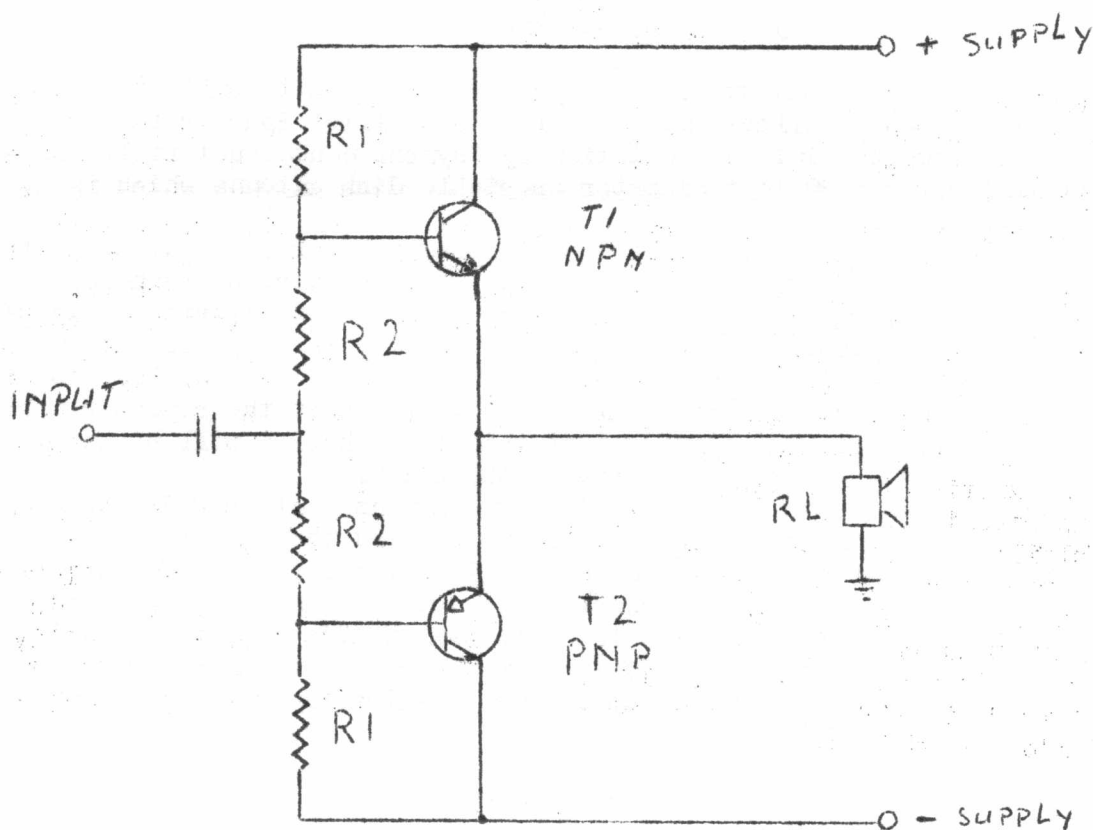
COMPLEMENTARY SYMMETRY

What is complementary symmetry, and how does it work. Briefly: Bipolar transistors have a singular advantage over valves and unipolar transistors in that they can be connected to perform push-pull PA operation without the need for a phase-splitting driver-stage. This is accomplished by using a matched pair of complementary NPN and PNP devices. Using the transistor configuration shown (common collector) in the diagram, a very low impedance will appear across R_L . NO TRANSFORMERS! Hence the use of low impedance speakers.

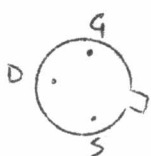
The stage may be operated as class A or AB. Since the standby currents for each device flow in opposite directions through R_L , there is no net d.c. voltage drop across this resistor. When the incoming signal is going through its positive half-cycle T_1 , the NPN transistor becomes more conductive than the PNP - T_2 . During the next half-cycle, the opposite is true; that is, the PNP transistor becomes more conductive than the NPN device. The signal passed by each device develops across R_L in alternate half-cycles that reconstitute the input waveform.

R_1 and R_2 form the forward biasing for T_1 and T_2 .

TREVOR 7TB.



DID YOU SEE those Transistor Base connections last month? You didn't. Maybe it was because we were in such a hurry and forgot to put them in, mind you we would never admit to it. Anyway here they are again.



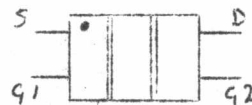
MPF102



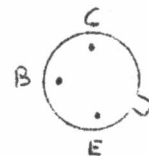
2N3819



2N5245
T1588



MPF121



(TT) 2N3563
(TT) 2N3564
(TT) 2N3565

SYNCART (Synchronous Amateur Radio Transponder)(COPY BY COURTESY AMSAT NEWS-
LETTER)

SYNCART, proposed to NASA as an experiment for the ATS-G Applications Technology Satellite, represents an ideal opportunity to achieve a high-power, long lifetime amateur communications relay on a synchronous satellite to be placed into earth-stationary orbit around 1975. ATS-G is planned to contain a thirty-foot parabolic reflector capable of providing high-gain earth coverage in the VHF amateur bands. AMSAT has proposed to provide as part of this satellite, on a non-funded basis, a twenty watt PEP linear repeater capable of handling 20 to 50 amateur transmissions simultaneously using a frequency of approximately 145.9 MHz for the amateur-to-satellite link, and approximately 432.2 MHz for the satellite-to-amateur station downlink.

SYNCART's projected lifetime of several years will effectively open 200 KHz segments of the two meter and seventy centimeter amateur bands for long-distance use by amateurs in North, Central, and South America on a full-time, operational basis.

Although SYNCART, like all previous OSCAR satellites, is to be constructed entirely on a donated-time basis, it is expected that high-reliability, quality-controlled components will be needed for SYNCART's long planned lifetime in the space environment.

SYNCART

By Harry D. Helfrich W3ZM

On November 1, 1969 AMSAT submitted a proposal to NASA to build two experiments for launch on the ATS-G (Applications Technology Satellite) Spacecraft. This satellite will be launched into a geostationary (synchronous-equatorial) orbit in 1975. It will carry a 30 foot diameter erectable dish antenna which is available to experimenters. A pointing accuracy of $\pm 0.10^\circ$ and antenna size gives full earth disk coverage. The spacecraft location is not finally determined but currently is planned to be such as to give coverage of the whole Western hemisphere.

The AMSAT proposal was two fold, for a Direct Broadcast Television Experiment and a 144 to 432 MHz repeater. Although not rejected by the NASA selection process, our proposal did not make the final select list, only one in 10 submissions did! Recently an experiment reassessment permitted us to resubmit the repeater portion of our proposal. Prospects are excellent at this time that we will be authorized to launch an experiment as described below on the ATS-G.

The experiment has been named SYNCART, (Synchronous Amateur Radio Transponder) and will fulfill the often stated request of our members that we attempt a synchronous repeater. Although the launch date is several years off, building an experiment to meet NASA's rigorous standards will be a demanding job. Parts and whole experiment qualification and testing will tax AMSAT's technical ability far more than has either OSCAR program. If finally selected, we can be proud of attaining this "scientific experimenter" stature. Extracts from our technical proposal follow. (Next Month)

THE NORTHERN EQUIPMENT STORE has a lot of NEW goodies on order for you and the following should be available shortly:

COMPLETE KITS FOR THE TAA300 AUDIO AMP. - Approx. \$4.50 each

50 Or 75 OHM DUMMY LOAD KIT 20 WATT - \$1.20 each

DUMMY LOAD - WATTMETER (USING 20k/v MULTIMETER) \$3.20 each

SPEAKERS 8 ohms 4" \$2.00 each

2 1/2" \$1.70 each

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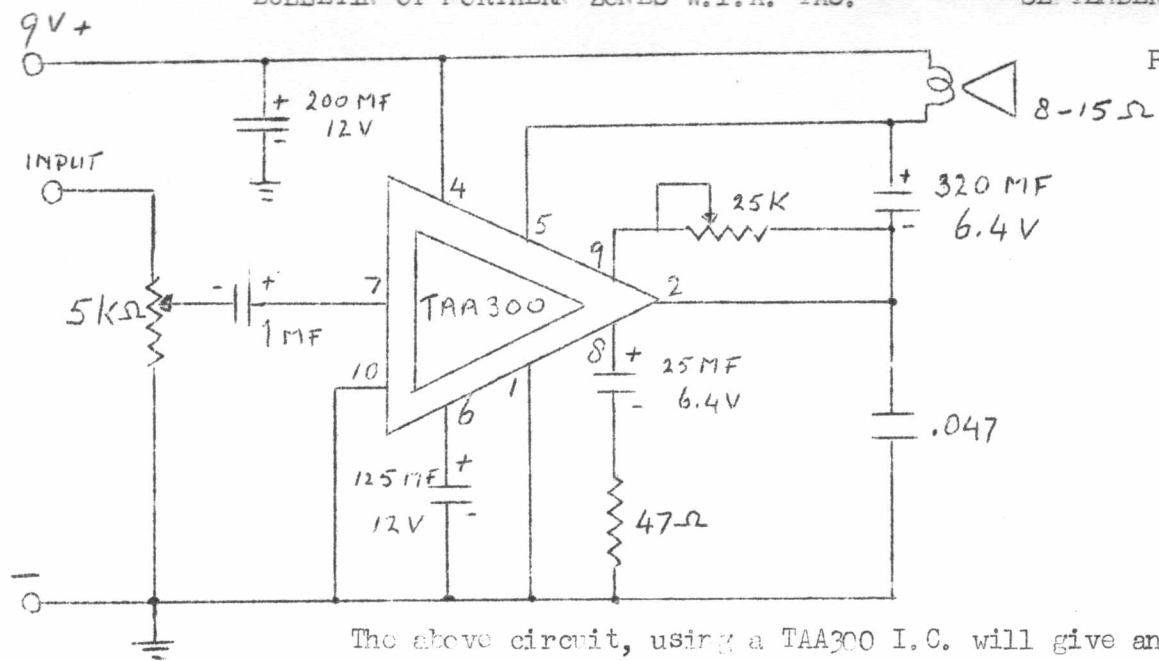
SPEAKERS 8 ohms 4" \$2.00 each

3 1/2" \$1.70 each

3" \$1.40 each

2 3/4", 2 1/2", 2 1/4" \$1.20 each

Make certain you don't miss out, and order any of the above items at the next meeting from KEVIN 7ZAH or JOHN 7JV.



The above circuit, using a TAA300 I.C. will give an output of approx. 1 Watt into an 8 ohm speaker. A 15 ohm spkr. may be used with a slight decrease in power output. 8 ohm is the minimum load impedance that can be used.

Supply rail should be 9 volts with a maximum of 10 volts (NOT 12V). This unit can be used for a variety of purposes - from a crystal set amplifier to an audio stage in a Receiver. It can be made up on a small P.C. board.

SUGGESTED P.C. BOARD

3" x 2 1/2"

