

SEPTEMBER
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VK7JV DE VK7ZNR

Thanks John. I would just like to say that.

Had those whose deaths we were remembering during the R.D. contest been R.D. contest been "On Air" during the weekend they would have been justly proud of the Northern Zone participants. It was indeed a friendly contest although at times the going was hectic was never a rat race. As the day went on operating procedures became more proficient and any fresh call that dared to call C Q Contest were held until all were satisfied and contacts exchanged. It was these casuals that added spice, just when things quietened, up popped a new caller and it was on again.

Not all was sombre. There were the numerous occasions, such as Col 7LZ quietly asking who was waiting and then virtually disappearing for a couple of minutes whilst call signs came back to him like a roll call, ask a silly question Col!

The same treatment was extended to Gordon 7GW and Peter 7PD who gallantly but some what foolishly made the error of coming "on air" on VHF during the last hour of a most memorable contest. It was said that Wally 7ZWX had the most frustrating time towards the end (when he was not sought after) had a transmitter audio fault much to the dismay of the hounds. But I reckon Peter 7PF had the harassing time by the groans he made as he listened to the crashing of relays from his box on the mountain.

My comments so far have concerned the VHF bands but I'm told that the HFers had their share of glory if John 7JV's score is anything to go by, and according to numbers exchanged with VHF-ers in HQ zone they too had some action. Finally our link to the Coast was Ian 7ZIE who was as regular as the sun.

To those who could not participate through sickness or other commitments I commiserate and hope that next year you have better luck, to the XYLs-YLs and harmonics I say thank you for letting us possibly muck up your weekend.

If Tasmania does not recapture the Trophy back this year it would not have been the fault of those who "came back" nor of the "new breed" who have so ably followed in the footsteps of those departed.

73

7ZNR.

M E E T I N G S

Sept. 5th NORTH WESTERN ZONE - LAKIN'S HALL, ULVERSTONE

Sept. 8th NORTHERN ZONE - A.E.B. ROOMS, HIGH ST. ROOM 10 - LECTURE BY
MR. KEN ATHERTON ON SKINDIVING, ALSO KEN WILL SHOW SOME UNDERWATER
COLOUR SLIDES

Y.R.C.S. CLASSES

Sept. 9th & 23rd KINGS MEADOWS HIGH SCHOOL

Oct. 7th & 8th - VK - ZL CONTEST PHONE
Oct. 14th & 15th - VK - ZL CONTEST C.W.

NORTHERN NOTES.

Once again our meeting was well attended with 32 present. A new face was Ken Higher.

Business matters went swiftly - only real items were the projected change in repeater call sign (to VK7RAN) and suggestions for encouraging activity in the RD contest. Major item on the agenda was a display of members' equipment. It always is a shock to see the variety supplied. Noted:

- (1) John 7JV demonstrated his SSTV using a tape recorded for him by a W station.
- (2) A number of commercial units were displayed by Norm 7ZNR. A 460MHz pocket transceiver and a mobile caught our attention. Even had a 75 MHz filter!
- (3) 7BC discussed his Heathkit SB101 transceiver.
- (4) An I.G.L. solid state 2Mx FM unit was shown by Reg 7KK.
- (5) The SSB tucker tin tx recently described has been keeping Joe 7ZGJ busy as has his 6 & 2 meter 30 watt solid state mobile
- (6) Peter 7PF showed two aircraft radios including an ADF with a frequency synthesiser
- (7) Don't know what Bob 7ZRF does in his spare time but he presented a partly built vidicon camera, a varactor 144 to 432 MHz tripler, an instant warm up 10 watt 6 meter valve final, a 2 meter converter (solid state) and a single IC crystal locked receiver (\$4.50 for an RF, IF, Detector, xtal oscillator and audio!)
- (8) Bill 7AK showed the ultimate in a non-frequency sensitive SWR meter/in line power meter.

To cap it off Joe, 7ZGJ played tapes of some of his 6 meter scatter contacts. He must have audio filters for ears!

If Northern VK7 is any guide, adding the 2-hourly limit for reworking a VHF station in the R.D. contest must be the brain wave of the century. The enthusiasm of Z calls had to be heard to be believed - many of them made up to 150 contacts! Apparently 26 different call signs were heard through the Mt. Barrow repeater. Quite a few crystals around for a "temporary" frequency!

NORTH WESTERN ZONE NOTES.

Our annual meeting was quite a success on 1st August. Tony 7AX vacated the chair for the election of President but was very smartly voted back to it for another term. The customers must be satisfied. Likewise most other officers were also voted back. In fact the election was a waste of time. Tony presented his annual report, disclosing a round of activities for the year, quite a successful one. Likewise our finances proved satisfactory and our equipment store turned over around \$350.00. It appears that there are still amateurs in the area doing some building.

It was decided to deter ladies night to 3rd October for possibly better weather. O.M. please pass this to the YL or XYL to read. Ladies, we offer you a warm welcome, a talkie picture show, musical items, competitions, dancing and a man-sized supper, all dished out by the men. What more could U ask. If you can let us know. Couples from other zones are welcome but we must be advised in advance. After the meeting we were most intrigued when Peter 7PF gave a lecture on tracking Oscar with some most ingenious apparatus. Also David 7MS gave a thumbnail course on keeping R.D. contacts under control. That's something the computer won't do for you David.

Saw a TH6DXX Thunderbird leave this area for the Northern Zone the other day and I forecast that some Johnie up there will soon be punching out a mighty signal.

To reiterate our office bearers are:- President - Tony 7AX, Vice-Presidents Ken 7KH and David 7MS, Secretary Max 7MX, Treasurer Graham 7ZAR. QSL Officer Harold 7MZ, Equipment Store Ian 7ZIE.

CAN YOU BEAT THIS ONE: During the R.D. Contest I called a VK3, have him a number he gave me a number, said thanks and followed up with - "This is my frequency old man". Now, there's a new trick to an old game. By the time I closed my mouth it was too late to reply. HI.

SEE YOU NEXT MONTH! 7MX.

Two incredible RD scores were achieved by GREG 7KJ and JOHN 7JV with around 600 contacts. CONGRATULATIONS!

1972 E.R.E.E. AUSTRALIAN FARADAY LECTURE

The Faraday Lectures were commenced in 1924 by the Institution of Electrical Engineers in the United Kingdom. The name pays tribute to the memory of Michael Faraday, the British physicist who in 1831 discovered electromagnetic induction - the principle on which the whole of the electrical technology is founded. Following a tradition set by Faraday, extensive use is made of visual aids and the simple explanation of complex subjects. The inaugural Faraday Lecture in Australia was arranged by the Institution of Radio and Electronics Engineers Australia in 1970.

"TELECOMMUNICATIONS - THE NERVE SYSTEM OF MODERN SOCIETY" is the title of the 1972 Australian Faraday Lecture being presented in all capital cities and a number of provincial cities by Mr. A. H. Kaye M.V.O., B.Sc. C. Eng., F.I.E.E., F.I.E. (Aust.), F.I.R.E.E. (Aust.) Assistant Director (Engineering), Australian Post Office, South Australia.

The lecture shows that as society grows more complex, it relies on telecommunications to support its social, business and development activities. It demonstrates how the telegraph, the telephone, radio and television broadcasting and a host of other services - many little known - penetrate the lives of everyone.

Coinciding with the anniversary of the completion 100 years ago of the 2,000 mile overland telegraph line between Adelaide and Darwin, the lecture touches on this achievement and traces the developments through the years, with emphasis on the techniques of today, the pattern, the depth and a glimpse into the future.

It shows how thousands of simultaneous telephone conversations can be transmitted over one pair of wires. How facsimile information, television programmes, computer information, a birthday greeting and bundles of telephone calls can be pushed along a virtually hollow tube and how a householder can dial across the continent as easily as across his own town. The lecture points out that the Australian telecommunications network is part of a worldwide network.

The recurring theme is man's increasing need for communication - the more prosperous a nation becomes, the more telecommunications services it requires and it draws attention to the interdependence of national development and telecommunications development. Finally it highlights the necessity for adequate resources - including the important factor of human resources in the scientific and technological fields - to meet the challenges of the future.

The members of the W.I.A. have been invited to attend this lecture; to assist in planning would you please return the slip below before September 16th - TICKETS ARE FREE.

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TICKET APPLICATION FORM

I WOULD LIKE TO ATTEND THE FARADAY LECTURE ON OCTOBER 18th, 8pm AND WOULD LIKE TO RESERVETICKET(S)

MY NAME IS.....CALL.....

ADDRESS.....

PHONE.....

IF MORE THAN ONE (1) TICKET IS REQUESTED PLEASE GIVE NAMES.

SPECIFICATIONS FOR SATELLITE AOC By G. Long Chairman - Project Australis Group

While in the construction stage this satellite will be known as AOC. Upon launch this title will change to A06.

SPECIFICATIONS:-

- (a) ORBIT DETAILS: Period 108 minutes inclination 99° to the equator (retrograde) height 1100KM circular. Midday crossing (local solar time)
 - (b) Approximate launch date - November 1972.
 - (c) Equipment carried upon satellite:
 - (a) 1 only linear translator:-
 - Input - 145.950MHz $\pm$ 50Khz
 - Output - 29.50 Mhz $\pm$ 50Khz
 - Receiver sensitivity = - 120 dbm, for first detectable signal.
 - Transmitter - maximum output 2 watts peak-envelope - power.
 - Modes of translation, A1 A3 A 3A
 - C.W. A.M. SSB.
 - F3
 - F.M. F.S.K. SSTV
 - RTTY
- Also a cs, beacon frequency - upon 29.450 Mhz
- (b) 70cm Beacon Transmitter:-
 - Frequency - 435.100Mhz
 - Power - 0.75 watts
 - Modulation - A1 (cw)
 - Information - Telemetry, cw - 20 words per minute, or 13 words/minute ground command selection.
 - Codestore modulation, 13 words/minute.
 - (c) Telemetry - 24 channels, to monitor essential functions.
 - (d) Codestore - 1024 bits, of information, A1 mode. ground programmable. will be loaded with orbital or any other pertinent information for replay during any orbit).
 - (e) Command - 21 command channels to control all housekeeping and control functions aboard the spacecraft. Control frequency - within the 2m band. The commands will be FM - (F3), $\pm$ 7.5 KHz deviation. Required signal level at ground level expected to command satellite: - 2KW ERP. All commands will be in the form of digital code. Because of the possibility of tampering with commands. All code information is confidential but may be obtained from the Project Chairman under specific special conditions (i.e. for the specific information or use by government instrumentalities P.M.G. - CSIRO - Dept's of Supply or Defence).
 - (f) On board power supply: Nickel Cadmium batteries, charged by on-board solar cells mounted on four panels on outside of satellite, average available power 4 watts, at 28 volts.
 - (g) Lifetime: Satellite design lifetime is one year, all components manufactured to military specifications. As much of the beacon transmitter and the command decoder (only items built in Australia) as possible are constructed using Australian manufactured and suitable components.

Command Stations in the Australasian region:-

New Zealand - Bruce Rowlings ZLIWB

Aust. Melbourne - P. Hammer VK3ZPI

G. N. Long VK3YDB

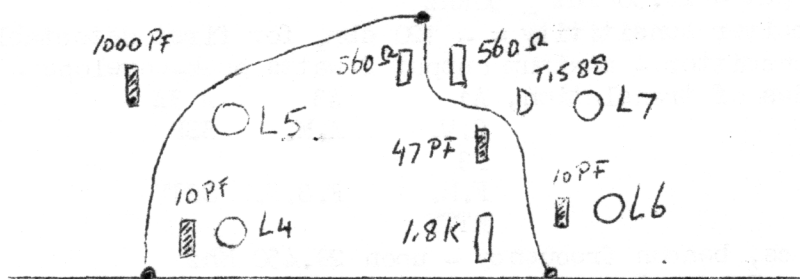
West Australia - Don Graham VK6HK

MODIFICATIONS FOR THE VK3 FM CARPHONEINSTABILITY IN 455 IF STRIP.

1. To stop instability, increase capacity of decoupling electrolytic on DET i/c awm1306 Pin 7, from 1 uf to 30 uf.
2. Reduce coupling capacitor from Pin 8 to coil from .01 to 470 PF ceramic.

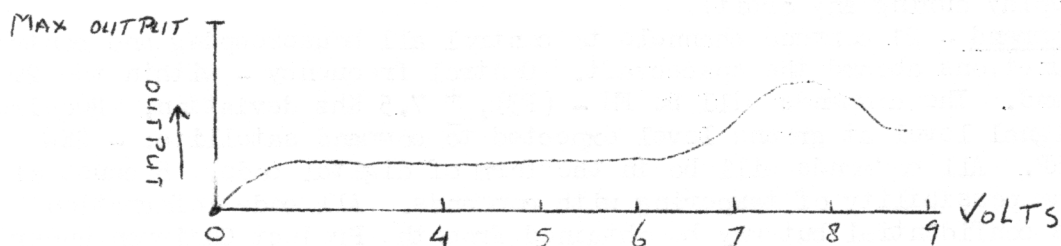
INSTABILITY IN FRONT END.

1. Make up a screen from tin plate, about 1" high and place on the P.C.B. as shown in diagram. The screen can be easily fixed by drilling 3 holes in the P.C.B. and using 60A fuse wire as supports.

VOLTAGE ON 455KHz I.F.

The voltage should be adjusted for maximum audio out put.

1. When the receiver is roughly aligned remove the zener diode and insert a 2K ohm Pot in place of the decoupling resistor (470 ohm).
2. Adjust voltage for maximum noise output, it will be found that the output will follow the curve below.

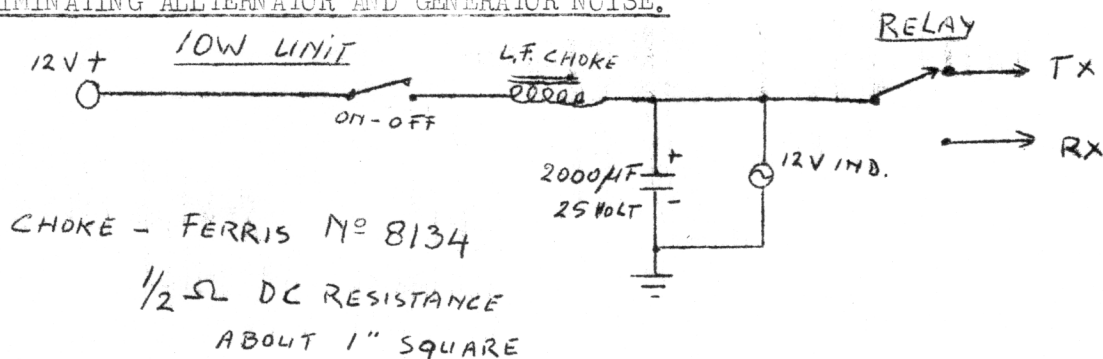
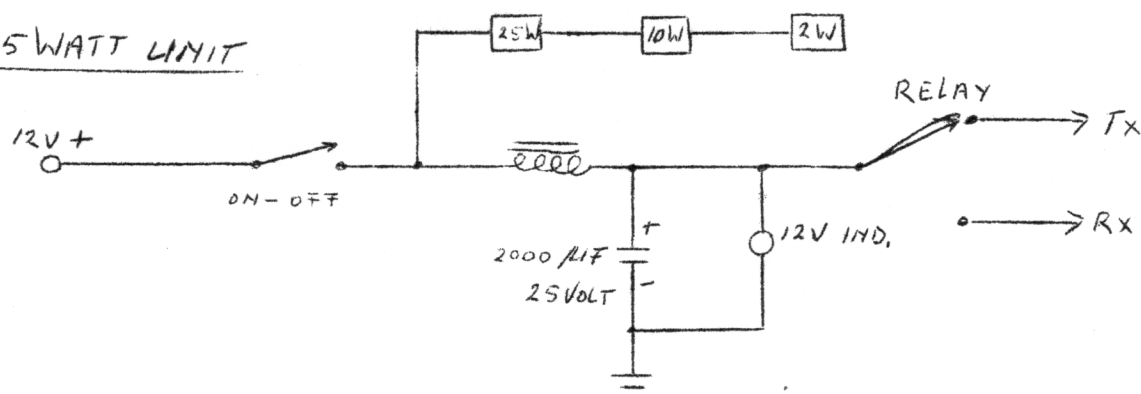


Maximum output will be between 7-10 volts, in my case 7.6 volts. So a 7.5 zener and 470 ohm resistor was used.

3. After fitting a zener diode which will give the correct voltage, make sure the voltage across the zener remains constant with normal voltage variations to the unit. (11-14 volts)

TO REDUCE AM NOISE.

After aligning receiver using a F.M. signal generator switch generator to A.M. modulation and increase generator output. Adjust the 3 455KHz I.F. transformers for minimum audio output.

ELIMINATING ALTERNATOR AND GENERATOR NOISE.25 WATT LIMITTO REDUCE DISTORTION IN THE MICROPHONE PRE-AMP.

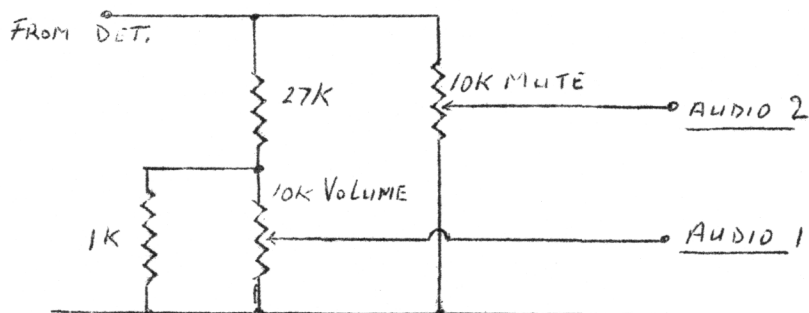
Reduce the 33K ohm resistor from the base of the 2n3565 transistor to 4 rail to 27K ohm.

R.F. FEEDBACK.

1. Do not use transistors with metal cases (2N3565) in the mic pre-amp.
2. The mic gain control (TR1) should not be turned full on, maximum setting is about 3/4 on.

TO STOP SATURATION ON STRONG SIGNALS.

Place a DA90 or similar diode across L1, cathode to pin 9.

TO REDUCE AUDIO O.P.

To increase the R.F. Output of the 25 watt final replace one of the 33PF capacitors from L2 to earth with a suitable trimmer with the same capacity and adjust to maximum output.

For more information contact VK7ZGT.