

GATEWAY

*The Official Journal
of the Gippsland Gate
Radio & Electronics Club*



AUGUST 1995

GIPPSLAND GATE RADIO AND ELECTRONICS CLUB INC

COMMITTEE MEMBERS 1995/1996

President	Albert Hubbard	VK3BQO
Secretary	Dave Campbell	VK3XMF
Treasurer	Ian Jackson	VK3BUF
Committee Member	Helmut Inhoven	VK3DHI
Committee Member	Graham Brennan	VK3KCS

Magazine Editors: Graham VK3KCS & Ted VK3XLE

Printing & Dispatch: Graham Brennan Ph. (059) 963298

Deadline for articles in next months issue: Tues. September 5th.

Club Meetings held at the Cranbourne Girl Guide Hall in Grant St. Cranbourne. Meetings commence at 8.15 pm on the third Friday of each month.

Club Station: VK3BJA Located at the Guide Hall

Repeater-----VK3RDD in 52.575 out 53.575 Mhz
HF-----28.325 Mhz , USB
VHF-----146.225 Mhz , FM
UHF-----438.850 Mhz , FM

ALL VISITORS WELCOME

EL PRESIDENTE' REPORT

Maybe its the cold wet winters that we have in Melbourne. Or is it something else? Anyway, this month we say farewell to 2 couples from our membership. Kerry and Lyn: Clayton are leaving us for a more Westerly area of Maryborough and Peter and Marion Diprose are headed for New Guinea. Kerry and Lyn have contributed greatly to shaping the Club into what you see today and for that we must thank them a lot. Kerry spent time on the Committee in various positions including President for at least 2 years. In the past few years, I personally have seen their children grow up, get married and move out of home, so I suppose its time for the parents to move on as well. Peter and Marion have also decided that a change is as good as a holiday. In their relatively short time as members, they have endeared themselves to all the regulars by being very active in Club activities and will be missed. We wish both couples well in your new ventures and trust that distance will not be a limiting factor to our ongoing friendship. **GOOD LUCK.**

Now down to business..... I always mention the prac. nights. The prac. night for September will begin a series of discussions/demonstrations on TEST GEAR. As the Club has a selection of its own gear, we may as well start with it. However, please feel free to bring your own along and maybe pick up a clue or 2. I think we can easily use up the remainder of this years prac. nights on test gear.

I trust everyone had a good time at the Rialto last Saturday night. How many forgot? Don't forget about the White Elephant Sale in September. Methinks we have got it right this year, so it will be BIG. Check elsewhere in this edition for news on a snow trip. Well there's so much of it around we may as well enjoy it. Ok - times up; been sitting here for 5 minutes and cannot think of any more so see you later.

PS that wasted another line.

73.....DE VK3BQO ALBERT

EVENT - QUEUE

Friday	18.August	08.15 pm	GUEST SPEAKER VK3 MTA Club Meeting SOTA.
Friday	01.September	08.15 pm	Prac Night
Sunday	03.September	07.00 am	Snow Trip to Lake Mountain meet Stamford Hotel
Tuesday	05.September	08.00 pm	Committee Meeting
Friday	15.September	08.15 pm	Club Meeting
Saturday	16.September	07.30 am	White Elephant Sale
Friday	06.October	08.15 pm	Prac Night
Tuesday	10.October	08.00 pm	Committee Meeting
Friday	20.October	08.15 pm	Club Meeting
Saturday/21/22.October		08.00 am	JOTA
Sunday			

=====



***SNOW TRIP
TO
LAKE MOUNTAIN***

SUNDAY 3RD SEPTEMBER

***MEETING AT THE STAMFORD HOTEL
CAR PARK 7.00AM
CNR STUD RD. & WELLINGTON RD.***

DON'T FORGET THE COAT AND GUMBOOTS

SEE YOU THERE

HOW NOT TO GET A BUZZ FROM YOUR RT85

Ian VK3BUF

Another brief article on improvements to the GGREC RT85 project for the 6M amateur band. Last week Glen Corrie (VK3UGC) and myself spent a couple of afternoons getting to the bottom of the audio problem inherent in the RT85 project. Whenever the transmitter is keyed, there is a loud buzzing noise from the microprocessor that is picked up by the microphone audio line from the control head to the transceiver. This noise can be heard as up to 25% of the voice level in the transmitted audio. There are two causes for this problem. The first is by the LF351 mic pre-amp chip in the control head. This device seems to be drastically affected by the microprocessor & display driver noise, probably through its supply line. The second source of contamination comes from the ribbon cable itself. Wire 5 in the ribbon cable carries the microphone audio and it really ought to be shielded.

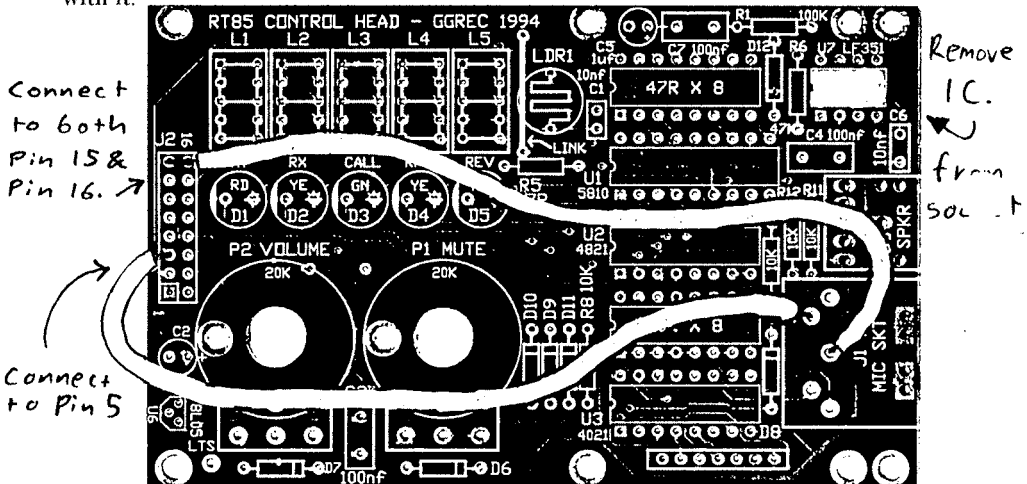
The following mods have been carried out on three transceivers so far with a 100% success. Having performed the modification you may go back to choosing between the standard dynamic microphone, or use an electret insert of some kind. It doesn't matter, they both will sound great. (The dynamic is probably better for mobile operation.)

Follow these three simple steps and your transmitted audio will be as quiet as a sparrow's fart in a vacuum.

STEP 1 The Control Head

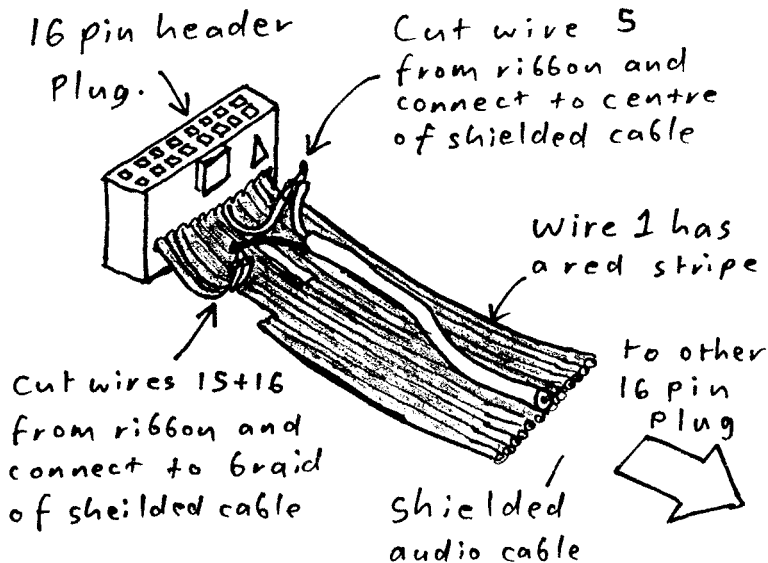
Temporarily remove the keypad from the Control Head PCB and add two straps as shown below. Pins 15 and 16 (the two end pins) of the rear of J2 should be strapped together and connected to the centre pin of the microphone socket.

Pin 5 of J2 needs to be strapped to the microphone socket audio output. When the straps are in place, unplug the LF351 ic from the U7 socket and give it to the cat to play with. These straps have effectively bypassed this ic, and all the noise that goes with it.



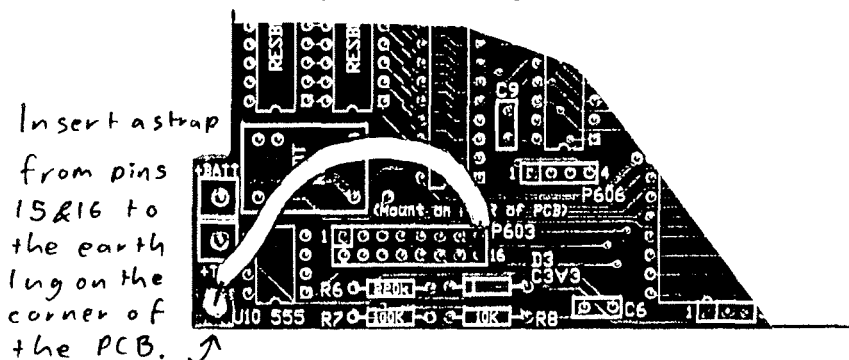
STEP 2 The Ribbon cable.

Get a section of shielded audio cable, some fairly skinny stuff will do, and cut it to the same length as the ribbon cable that connects the RT85 Control Head to the Transceiver. Using a sharp knife, (have three band-aid's on standby) isolate and cut the wires 5, 15 and 16 from the ribbon as per the diagram. The wires 15 & 16 must be soldered to the braid of the shielded cable, and wire 5 solders to the centre core. You may blob the terminations with glue to insulate and protect the joints.



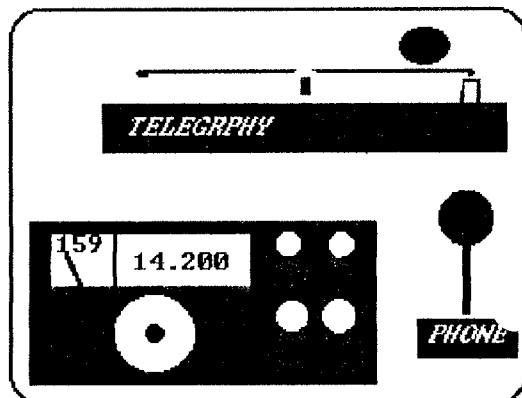
STEP 3 The Rear of the CPU board

The picture below shows a section of the CPU board and highlights where a strap needs to be inserted in order to provide a chassis ground to the shielded cable.



After these three mods are done, put it all together and send out a few CQ's on the Club repeater. You may have to set the Mic Gain and Deviation levels during an on-air test to optimise the audio quality. Good Luck!

CONTEST CALENDER



19/20. AUGUST	SAENET SSB DX CONTEST
19/20. AUGUST	KEYMAN'S CLUB OF JAPAN CW
02/03. SEPTEMBER	ALL ASIA DX PHONE CONTEST
03. SEPTEMBER	BULGARIAN DX CONTEST
03. SEPTEMBER	PANAMA ANNIVERSARY CONTEST
09/10. SEPTEMBER	WORKED ALL EUROPE PHONE CONTEST
16/17. SEPTEMBER	SAC DX CW CONTEST
23/24. SEPTEMBER	SAC DX PHONE CONTEST
23/24. SEPTEMBER	CQ WW RTTY DX CONTEST

AUGUST 1995



PROPAGATION

Conditions are worst compared to last month. The expected Sunspot Number for September is 14,4 compared with August of 16,1

TIMETABLE:

SHORT PATH:

Europe: 1600-2200 UTC	40m
1500-1900 UTC	20m
2100-2400 UTC	20m
2200-0100 UTC	17m
[if lucky] 2300-0100 UTC	15m

LONG PATH:

Europe: 0300-0900 UTC	40m
0600-0900 UTC	20m
none	17m
none	15m
USA: 0500-1500 UTC	40m
0200-0900 UTC	20m
0200-0600 UTC	17m
2300-0400 UTC	15m

Africa: 1300-0100 UTC	40m
0400-0500 UTC	20m
lucky? 0400-0900 UTC	17m
Asia: 0900-2100 UTC	40m
2300-0900 UTC	20m
0100-0800 UTC	17m
0300-0600 UTC	15m [with a lot of luck]

HF DX — WILL IT EVER IMPROVE?

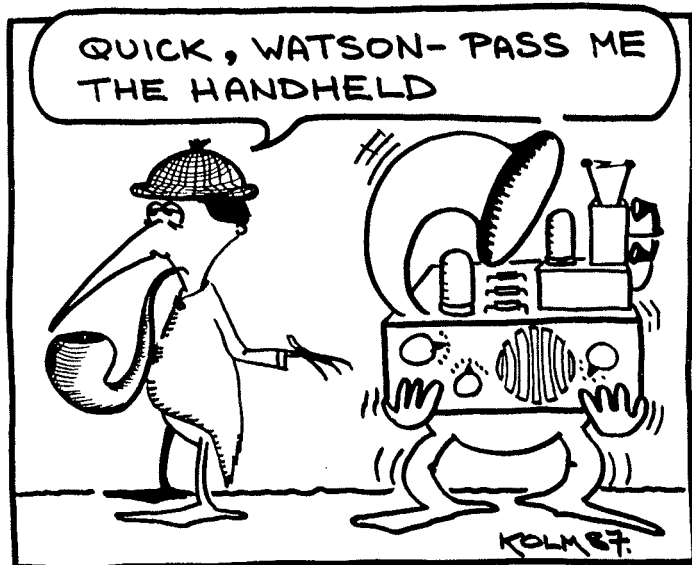
Well, yes — it must — but it's going to be quite some time yet.

The charts from the IPS on this page really tell it all — sunspot numbers are still on the decline and won't bottom out until mid-1996.

From that time onwards there is a steady improvement forecast through to the expected peak in mid-2000 when the IPS expects a maximum number of 150.

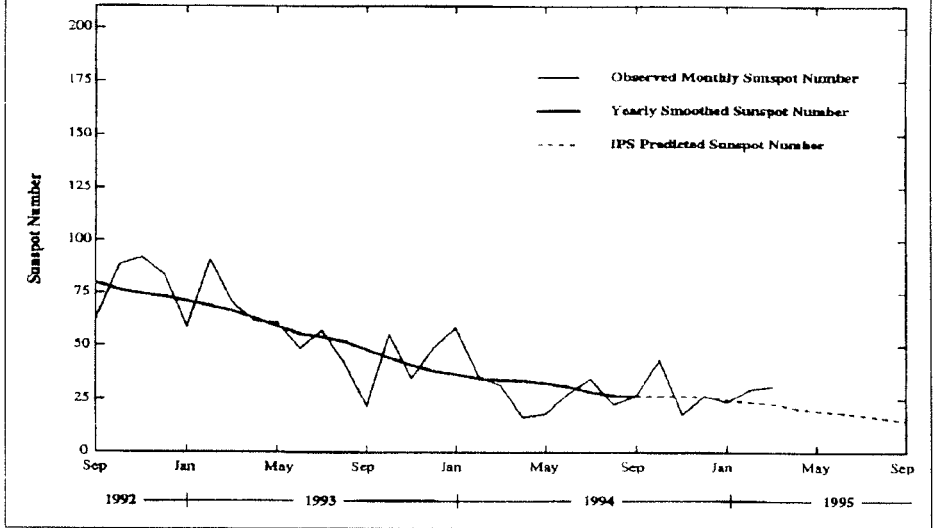
For those hobby communicators who are unsure what the heck we're talking about, the number of sunspots virtually governs HF propagation, and the higher the number the better the DX. As can be seen from the bottom graph, peak DX was last reached in 1989-90 with the 'smoothed sunspot number' peaking around 160 in mid '89, although the 'observed sunspot number' was actually higher in 1990. The number in February of this year was around 25, so you can see that things are going to get worse before they get better.

Even so, there is still plenty of good DX coming in on several HF bands, 20 metres in particular. Although I haven't heard it, I'm told that there have also been some strong but short openings on 11 metres. VK3ALS.



reprinted from A.R.

SUNSPOT NUMBER - SOLAR CYCLE NUMBER 22



P.T.O

**IPS PREDICTED SUNSPOT NUMBERS
CYCLE 23**

Based on Peak Sunspot Number of 150

<u>Year</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
1996	12	11	10	10	9	9	9	10	10	11	12	13
1997	14	16	17	19	22	24	27	31	35	40	45	50
1998	56	61	66	73	79	85	90	95	100	103	107	110
1999	115	120	124	128	131	135	138	141	143	146	147	149
2000	149	149	149	149	150	150	149	148	148	147	146	146
2001	146	146	144	143	141	139	138	136	135	133	131	128
2002	125	122	119	115	112	110	106	103	99	95	91	88
2003	85	82	80	78	76	73	71	69	68	67	65	63
2004	61	59	57	54	52	50	49	46	44	42	40	39
2005	38	37	35	34	33	32	30	29	28	27	26	25
2006	24	22	22	21	20	18	17	16	16	16	16	16
2007	16	16	16	17	17	18	19	21	22	23	24	26

G & C COMMUNICATIONS

HF & UHF CB RADIOS

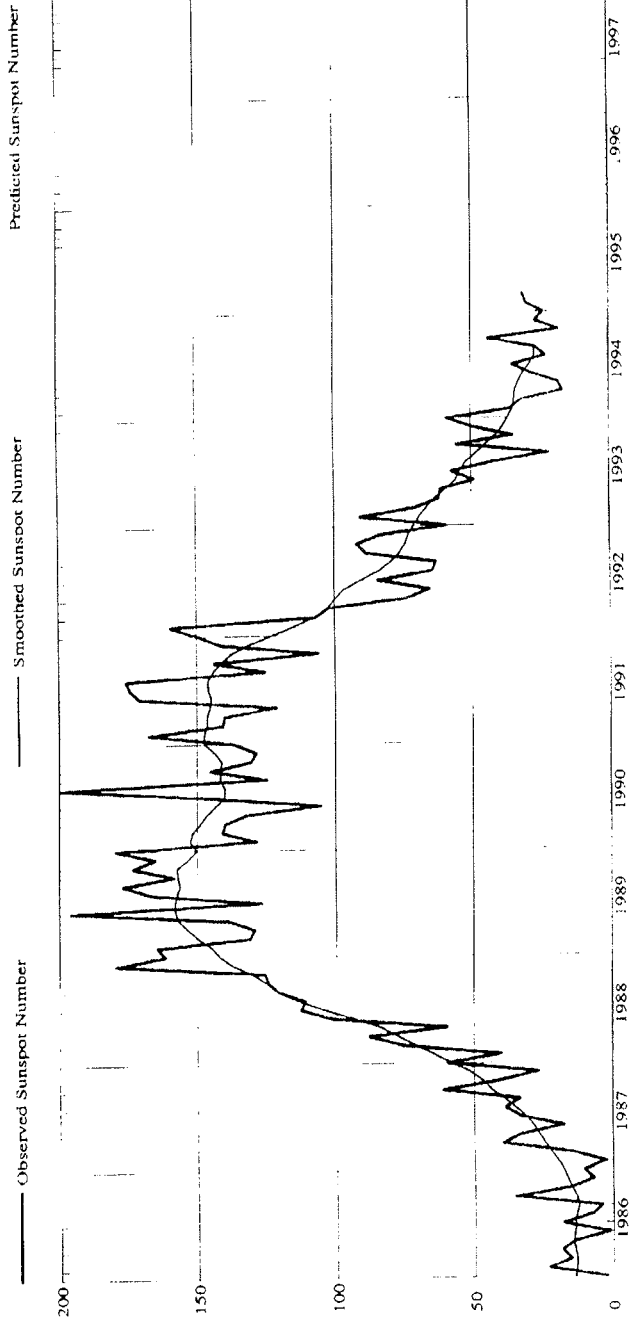
HF & VHF MARINE RADIOS

SALES & SERVICE

19 ARLEON CRES.,
CRANBOURNE 3977.

GRAHAM VK3KCS
PH: (059) 96 3298

SUNSPOT NUMBERS FOR SOLAR CYCLE FROM 1986 TO 1997



ANSWERS FOR JULY CROSSWORD



13/7/95

ACROSS

- 1 3Y (6)
- 4 Piezoelectric materials (8)
- 9 Common transistor electrode in highest power gain amplifier configuration (7)
- 10 Meter to determine circuit resonance frequency (4,3)
- 12 Motor which runs on AC or DC (9)
- 13 Signal to start (3)
- 14 Connected stages (7)
- 16 Read only computer memory that can be erased and re-programmed (1,1,1,1,1)
- 17 Early large scale digital computer built at the University of Pennsylvania (1,1,1,1,1)
- 18 Communication (7)
- 19 Atom with net positive or negative charge (3)
- 20 Photographic copy (9)
- 22 Pivot (7)
- 24 Transmit di-da-da-dah (4,3)
- 25 Roughest (8)

DOWN

- 1 Duplex CW (5,2,6)
- 2 Double base diode (1,1)
- 3 Impurity semiconductor (9)
- 5 Temporary storage locations within a CPU (9)
- 6 Ability (5)
- 7 Logical conjunction (3)
- 8 Logical value of 1 (8)
- 11 Front end R.F. signal boosters (13)
- 13 Emitter coupled (7,4)
- 15 Targets (3,6)
- 16 Reciprocal of capacitance (9)
- 20 Touch keyboard key (5)
- 21 Eject (4)
- 23 EA day (3)

BLOW UP BLOW UP BLOW UP

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GENERAL MEETING 21st July 1996

Meeting commenced: 20.30

Chairman: Albert VK3BQO

Minute Taker: David VK3XMF

Present: As per attendance sheet.

Visitors: David & Clayton from St. John's Ambulance

Apologies: VK3KCW, VK3XLE, VK3EXJ.

Correspondence: W.A.N.S.A.R.C.(June & July), E.M.D.R.C.(July), F.A.M.P.A.R.C.(July), A.R.(July), Incorporation Receipt, A.P.C. (July), F.A.M.P.A.R.C. change of address, Girl Guide's acceptance of White Elephant & Annual Dinner bookings.

Treasurers Report:

Read:Ian VK3BUF Moved:Helmut VK3DHI Sec:Reg VK3VRG Carried:Yes.
Income: \$ 135.88 Expenditure: \$ 272.26 Balance: \$4,063.56

Previous Minutes: Circulated in monthly magazine.

Read :VK3XMF Moved :Ivan VK3ARV Sec: Max VK3TMK Carried: Yes.

New Call Signs: Nil

Business Arising from Previous Minutes:

HF Kits: Kits are still ready to be collected by Kerry VK3KFC, Robin VK3TFA, and Eddie VK3TEH.

White Elephant: Plans for this year's White Elephant sale are progressing well. See Reg VK3VRG or Ivan VK3ARV for any ideas or queries.

6M Repeater: Thanks to VK3BUF the repeater is now working OK but as yet there has not been much activity.

Scienceworks: This was poorly attended, no doubt due to the cold wet weather present during the day.

Rialto Tower visit: Saturday 12th August 1995, 6.30 PM, with the possibility of visiting "Iceworks" as well.

General Business:

JOTA: The date is yet to be confirmed by the Girl Guides.

Prac. Night: The Solder demo was well received by those who attended. The theme of the next practical night will be on coax cable termination.

Raffle Prize: A Solder sucker is offered as a prize tonight at \$1.00 a ticket.

Club Science Works: VK3BUF proposed 4 or 5 people to organise this event to increase our profile in the local community. Volunteers were called for to meet him when the official meeting finishes.

Xmas Party: All agreed that this year's party would be held at the Guide Hall. VK3XMF to arrange for hall to be booked.

Guest Speaker: David and Clayton from the St. John's Ambulance spoke on the topic of first aid and what its like to serve as a volunteer first aid person.

Next Meeting: 18th August 1995 **Meeting Closed:** 21.00