

# Commercial Kinks

Many thanks to all who have written with suggestions for future editions of this column. Without a doubt the FT200 heads the list, so if all goes to plan, the August issue should see the start of a series on this piece of gear. If you have any ideas, problems, or suggestions about FT200s let me hear about it right away.

Back to the present. This month some notes on the Trio 9R 59D series receivers and also alignment data for Swan transceivers.

## TRIO 9R 59D RECEIVER

This receiver has been on the market here for around four years. In that time it has progressed from the DE to the DR and the current DS. Up to date, I have been unable to find out just what the difference is between these various models. Even the local agents don't know, or won't tell if they do. A close check of the circuits reveals only one change. The b.f.o. h.t. dropping resistor R28 has been reduced from 47K ohms in the early series to 2.2K ohms in the later ones. As yet I have not had a chance to try the change in my 9R 59DE, but it could increase the b.f.o. output and perhaps improve s.s.b. and c.w. reception.

As they stand, these receivers will do quite a fair job considering their price and will make an excellent receiver for the Amateur who works on 160, 80 and 40 metres.

However, a few slight modifications are worth while. Firstly get hold of a copy of April 1969 "A.R." In this David Rosenfield, VK3ADM, described some changes to the power supply section that are worth doing. If you have no copy of this, write to me and I will be happy to forward the circuits to you. These changes will improve the power supply regulation and allow a higher r.f. gain setting on s.s.b. and c.w. reception. David stated in his article that these modifications will also produce a lower hum level. I disagree with this. Most of the hum is induced directly into the output transformer from the power transformer. The only way to cure this is to move the output transformer under the chassis. A good place to mount it is on the back of the coil box. There are enough holes already here so you need not drill any.

While on the subject of hum, I wonder how many Amateurs have invested in a pair of stereo headphones to use on their transceiver or receiver and have been disappointed with the results? Generally the first reaction is where did all the hum come from. Well, of course, it was there all the time, but now you can hear it much better. The answer, reduce the sensitivity of the phones with a series resistor of around 200 ohms. A quarter watt rating is large enough and it can be fitted inside the plug. All the hum will now have gone and you need not wind the audio gain down from the normal speaker setting.

Back to the Trio. When using the set in the s.s.b. position the a.g.c. is removed from the 6BA6 r.f. stage. Better a.g.c. action can be obtained on sideband if the set is modified to allow for a.g.c. on the r.f. stage at all times. But first there is a catch. With a.g.c. on the r.f. stage you will get a marked improvement on 160, 80 and 40, but pulling of the h.f. oscillator might occur on 20. This will give an effect of frequency variation with modulation on s.s.b. signals. If you would like to try it first remove the white connection going to the function switch. Next find the tie strip near the 6BA6 r.f. stage which carries the a.g.c. connection. This can be identified by a one megohm resistor which runs from it to the grid connection of the tube via a 47 ohm stopper resistor. Connect a short jumper lead across to the a.g.c. point on the printed circuit board.

We will leave the 9R 59D at that point but if readers are interested in more modifications, let me know, I have quite a few more.

## SWAN TRANSCEIVER

### Filter Alignment for Models 350, 400, 350C, 500 and 500C

My thanks to Swan Electronics and to Ted VK3TG for passing on the information.

Equipment required: r.f. watt meter, audio generator.

Schematic symbols for the normal and opposite sideband carrier oscillator trimmer capacitors as listed for the various models:

	Models 350	400	350C
Normal s.b.	C1402	C1507	C1405
Opposite s.b. (opt.)		C1506 (not avail.)	
	Models 500	500C	
Normal sideband	C1406	C1403	
Opposite sideband	C1405	C1402	

Alignment, allow 15 minutes to warm up. Load the unit up on the 20 metre band as you would for normal operation. Key the p.t.t. and balance out the carrier with the carrier balance control. Feed 1500 Hertz from the audio generator into the mic. input. Adjust the gain of the audio generator and the mic. gain until the watt metre reads output. Ten or fifteen watts is sufficient. Adjust the first i.f. transformer slug with a plastic hex. alignment tool for maximum output. The first i.f. transformer is Z801.

Adjust both slugs in Z1301 (designated Z1401 in the Swan 400) for maximum power output. Increase the gain of the audio generator until the watt meter reads 80 watts output. Sweep the audio generator down to 300 Hertz. Adjust the normal sideband carrier oscillator trimmer for a reading of 20 watts. Switch the sideband selector to the opposite sideband and adjust the carrier oscillator trimmer for 20 watts output.

That's all for this month. Next issue will have information on vox units for some of the popular transceivers.

—VK3OM

## V.H.F. PROPAGATION

(Continued from Page 7)

- Nielson, D. L., "A Review of VHF Trans-equatorial Propagation," Stanford Research Institute (unpublished).
- Eccles, D., and King, J. W., "A Review of Topside Sounder Studies of the Equatorial Ionosphere," Proc. I.E.E.E., 57, June 1969, page 1012.
- McNamara, L. F., "Range-Spreading and Evening-Type Transequatorial Propagation," Physical Science, Vol. 234, Nov. 22, 1971.
- Ratcliffe, J. A., "Sun, Earth and Radio—an Introduction to the Ionosphere and Magnetosphere," World University Library, published 1970.
- Jamieson, E., "VHF," "Amateur Radio," January 1970 to June 1971.

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Credits for new members and those whose totals have been amended are also shown.

PHONE			
VK5MS	320/344	VK4VX	296/296
VK6RU	318/344	VK5AB	296/314
VK4KS	311/326	VK2APK	293/300
VK3AHO	310/326	VK4FJ	286/307
VK4UC	303/303	VK4TY	284/288
VK6MK	303/324	VK4PX	280/281
New Members:			
Cert. No.	Call	Total	
130	VK3JF	104/104	
131	VK4LZ	110/110	
132	VK3SO	104/104	
133	VK3AKR	125/125	

Amendments:			
VK5WV	110/110	VK4NQ	124/124

C.W.			
VK3AHQ	310/325	VK3NC	273/300
VK2QL	305/328	VK6RU	266/288
VK2APK	289/297	VK3YD	263/282
VK4FJ	289/315	VK4TY	259/272
VK3YL	288/305	VK3TL	254/260
VK3XB	285/300	VK3RJ	251/265

Amendments:			
VK3KS	247/254	VK3LV	121/121
VK3JF	194/201		

OPEN			
VK6RU	318/344	VK4VX	304/304
VK4SD	315/330	VK4UC	303/303
VK4KS	312/331	VK6MK	303/324
VK2VN	311/330	VK2EO	301/325
VK2APK	307/319	VK2SG	298/304
VK4TY	306/321	VK4FJ	297/323

New Members:			
Cert. No.	Call	Total	
139	VK3SO	108/108	
140	VK3JF	205/212	

Amendments:			
VK3XB	291/306	VK4NQ	136/136
VK4PX	287/292	VK3LV	126/126