aerial system should be removed and the rig connected to a good dummy load as shown in **Figure 2A.** Filament lamps should not be used as a load since their resistance changes with power level, they are inductive and they tend to radiate! The 3.7MHz should be selected and, with the MIC GAIN control at minimum, the rig is set to TUNE and tuned up as described in the handbook, that is by gradually increasing the mic gain and adjusting PRE-SELECT and PA TUNE and LOAD for maximum output. The function switch is then set to either USB or LSB, the MIC GAIN set to minimum and INT. MOX selected. This puts the rig into transmit but with no drive to the PA, so there should be no power indicated on the power output meter or SWR meter. Assuming this is so, the PA standing current can be checked, the correct value being 50mA on the KW2000A and B, and 25mA on the KW2000 which has only one PA valve. If the correct current is not observed the PA bias control, which is on the rear of the PSU chassis, should be adjusted to obtain the correct value. A useful check of the matching of the two PA valves in the KW2000A and B is to return the rig to receive by switching from INT. MOX to EXT. MOX, reset the bandswitch to 1.8MHz and tune up as before. Following the procedure given

above, the PA standing current should now be checked, the correct value in this case being 25mA (again, with no RF output).* If this condition is not met (ie. standing current 50mA on all bands except 1.8MHz where it should be 25mA), and two PA valves are not a matched pair. The best course of action in this case is to fit a new matched pair, but it may be possible to find a valve in the junk-box which will give a reasonable match with one of the pair already fitted. As before there is no point in proceeding further until these conditions can be achieved.

Assuming that the above conditions can be met a table similar to Table 1 should be drawn up listing the remaining controls, ie. MIC GAIN, PA TUNE and PA LOAD, and these should be checked for smoothness of operation. The PRE-SELECTOR should also be checked in the TUNE mode. Any jumpiness of PA current as the MIC GAIN is varied in the TUNE mode should be noted, since the current should rise smoothly from zero up to 125mA on the KW2000A and B (and approximately 70mA on the KW2000) on 3.5MHz. If any jumpiness exists it may indicate a faulty (or dirty) MIC GAIN control. The power output under key down conditions should be checked against the figures given in **Figure 2B**, the PA current being 200mA in the case of the

KW2000A and B or 100mA for the KW2000.

Curing problems with the controls

It is the firm opinion of the writers that any of the potentiometers which are in any way intermittent should be replaced by good quality new components rather than attempting to clean or repair them. Such a repair is unlikely to last very long, and it is worth avoiding later problems for the price of a new component.

Cleaning

VFO tuning control: if this feels notchy or lumpy as so often happens the only cure is to replace the ball bearing reduction drive with a new one. On the KW2000B the reduction drive is part of the VFO tuning capacitor so the capacitor will have to be replaced as well! If the tuning of the VFO is intermittent as the tuning control is rotated, and it is difficult to net, the most likely cause is a worn tuning capacitor and again a replacement is really the only cure.
Switches: if stiff or rough in operation the indexing mechanism at the front of the switch should be cleaned, after which a 'trace' of light grease should be applied to ball-bearings, not forgetting to oil the shaft lightly where it passes through the bush on the front panel.

Noisy switches can almost always be cured with a good quality switch cleaner (aerosol) with its own lubricant, for example RS components contact cleaner/lubricant cat. no. 554-175 or similar. Cleaners of the type containing carbon tetrachloride should not be used as these can damage the switches and also are considered to be hazardous to health.

When cleaning switches, a small amount of cleaner should be applied to each wafer in turn, at the same time operating the switch from position to position. This actually helps the cleaner to do its job. It should be ensured that the power is off!

After switch cleaning some time should be allowed to elapse before switching on, as the switch cleaner will cause drift of the RF circuits around the band-switch.

*The reason for the drop in standing current is that one PA valve is switched out of circuit on 1.8MHz to reduce the output power.

Table 1		
CONTROL	FAULT IF ANY	TICK IF OK
On/Off Sideband Select and Tune		
AF Gain		
RF Gain		
VFO Tuning		
IRT Tuning		
IRT, ITT etc Switch		
Pre-Selector Tuning		
Band Select		
Cal. on Button		
Cal. Set		