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AR7030 technical bulletin 007

Repair issues concerning the AR7030

Requests for spare parts indicate that service departments are making some important mistakes when diagnosing fault conditions on the AR7030.

Frequently requested components which seldom if ever actually fail are: microprocessor (89C52 and 89C55), mixer drive IC Q57 (74AC86).

Be aware of the following:

Faults appearing to be microprocessor based.

1. There have been no known instances of failure of the microprocessor IC on any set. If changing the IC appears to cure the problem it is either because of dry joints on the IC socket etc, or some other aspect of the control unit that has been disturbed during changing the processor.

Confirm this by putting the suspect processor into another set and seeing if the fault transfers. We feel confident in asserting that it will not!

2. Don't chase faults which appear to be processor based without first loading the ***default set.***

3. If you have any strange problems which appear to be processor related, don't ignore other possible symptoms the set may have, ie: ***does it still receive*** and ***is it still sensitive***. ***Check this at more than one point in the sets range***.

4. Be aware that anything that drops the supply voltage to the front panel below the correct level of 5V will cause strange problems which appear to be related to the processor but may actually be on the main unit. **The most common of these is failure of the mixer IC Q17 type SD5400.** *(refer to bulletin 7030mod.003)* This can cause the processor to behave strangely and the PLL system to unlock when the attenuator or pre amp settings are altered for example.

5. Peculiar voltage measurements around Q57 (74AC86) are almost always due to failure of the SD5400. Check the points above.

6. For any intermittent control unit problems check for intermittent shorts caused by solder whiskers on the front panel to main unit fillet solder joint.

Finally, for any problem, look and see if it has been addressed on any of the technical bulletins released. To date there have been 7 technical bulletins concerning the AR7030 including this one. (only five are now used) These are as follows:

Sheet no.	Issue date	Subject
7030mod.001		no longer issued, re issued as part of 7030mod.0003
7030mod.002		no longer issued, re issued as part of 7030mod.0003
7030mod.003	8 October 1996	J309 FET change and SD5400 clamping diodes
7030mod.004	7 January 1997	Audio output instability
7030mod.005	27 January 1997	AGC output to provide an analogue S meter drive
7030mod.006	21 April 1997	Pre amp instability
7030mod.007	14 January 1998	Repair issues concerning the AR7030
7030mod.008	27 March 1998	No receive on SSB modes inc sync AM

You should always refer to the information on these sheets first when faced with any customer query regarding the possibility of a faulty set.

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