Ailtech synthesizer status for the Tromso Dynasonde

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Five synthesizers are in Tromsø. I label the mainframes (36OD11) and plug-in modules (PM 3601, P360180E1, labelled RF#..) separately since they may get mixed around.

#1 is the original MPAe sounder synthesizer.

#2 is a spare synthesizer that MPAe bought in 1986. It has a different plug-in module(P3601.8E1) in that it goes to higher frequencies (1.8 GHZ instead of 180MHz) and needs a different BCD control cable/plug at the rear. The plug.in unit (RF#2) is different from the others.

#3 is the synthesizer from BAS, ex Halley. Note that the synthesizer on Svalbard has been upgraded to a PTS. #3 is partly disassembled. I think the power supplies were strange, and units have been removed in getting other synthesizers to work.

#4 is a spare synthesizer from BAS, ex Halley sounder

#5 is the synthesizer from the Lycksele (ex Utah State U.) sounder. The internal 10MHz source is disconnected for some reason.

Plug in units are labelled RF#1 through RF#5. Most of the plug-in units work reasonably well except RF#1 which gives a distorted output sine wave.

On 20181107 mainframe#1 was repaired. Two weak/cracked dry soldered joints in the bandpass filters of A7 and A8 were found and re-soldered. This resulted in a reliable output signal from the synthesizer.

Synthesizer#1 is in the sounder with RF#5 as of 20181107.

**So synthesizers #1 and #5 work (with any of RF#3,4,5)**.

Fault finding:

N.B. The extender cables in the brown service bag are very useful when troubleshooting.

Also the manuals give a good flow chart for fault finding. I used the Anritsu site master as a spectrum analyser to check some of the frequencies in the hundreds of MHz range which are used internally.

Check that the switch at rear is set to 220V. That is what we use mainly, even if 110V can be used.