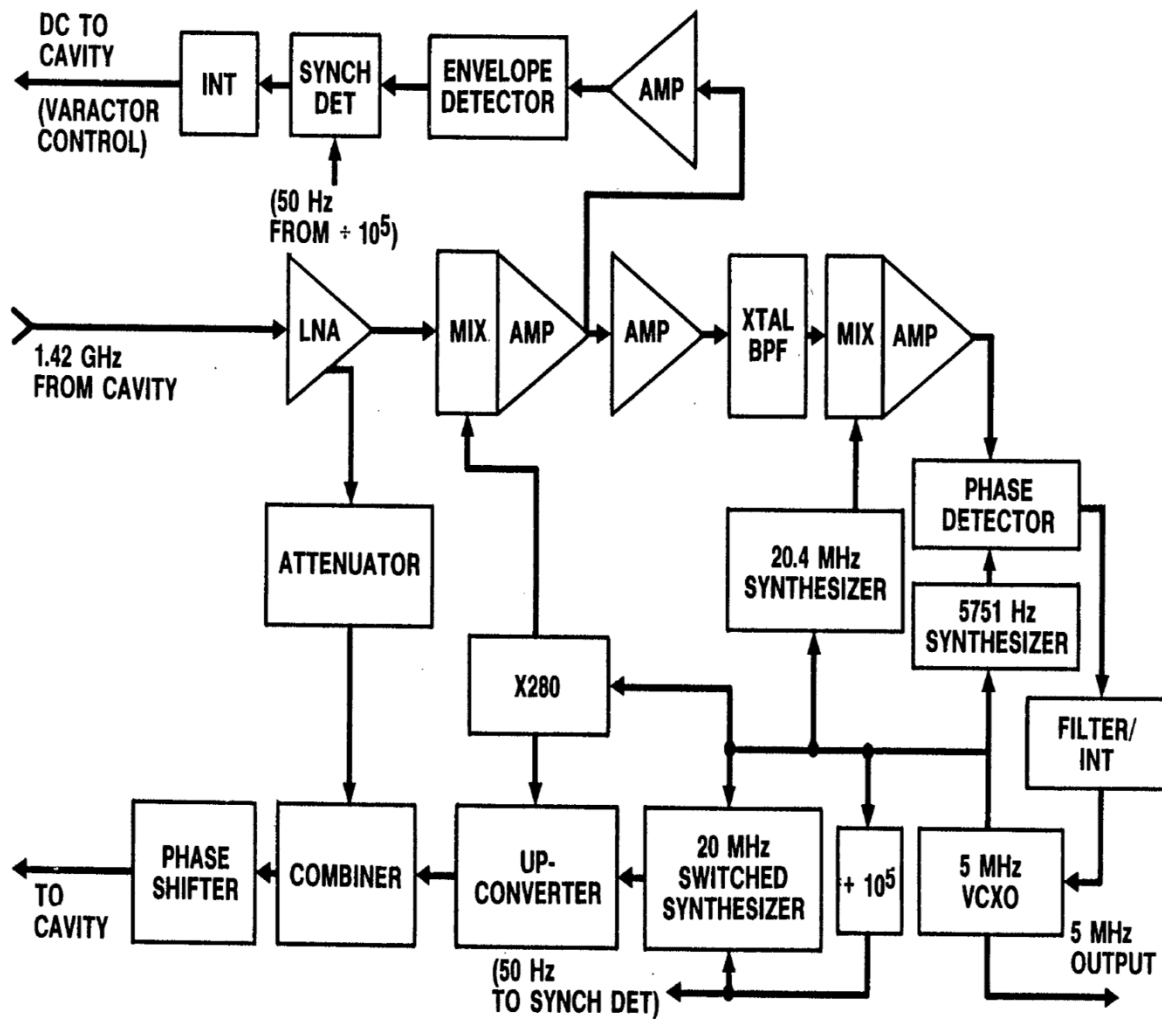


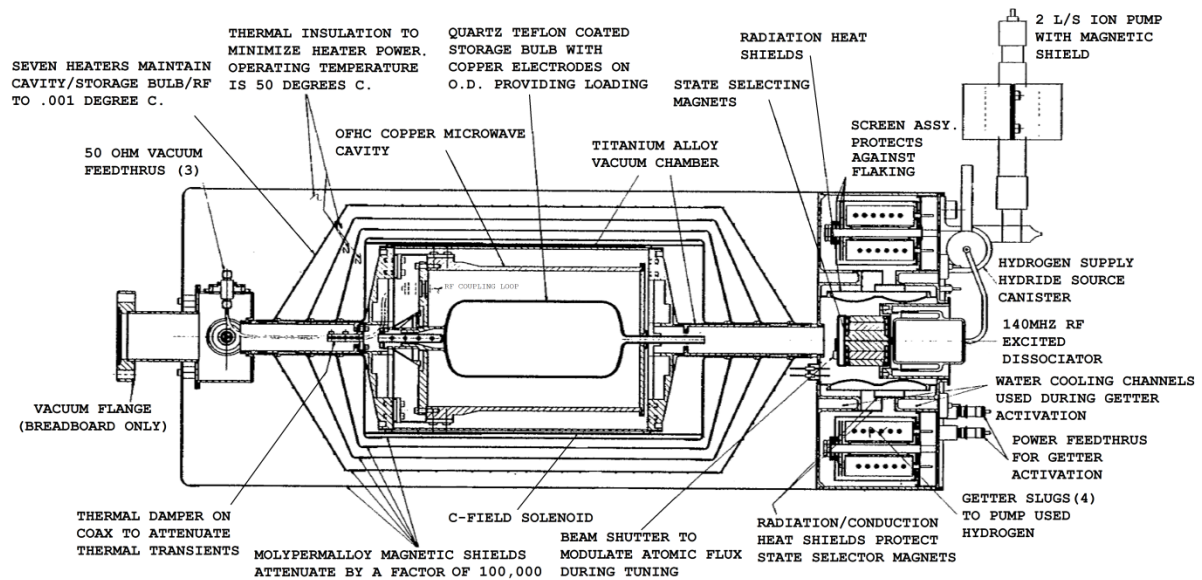
UPDATE 4

Thanks to help from Joe White at NRL the maser has been positively identified!

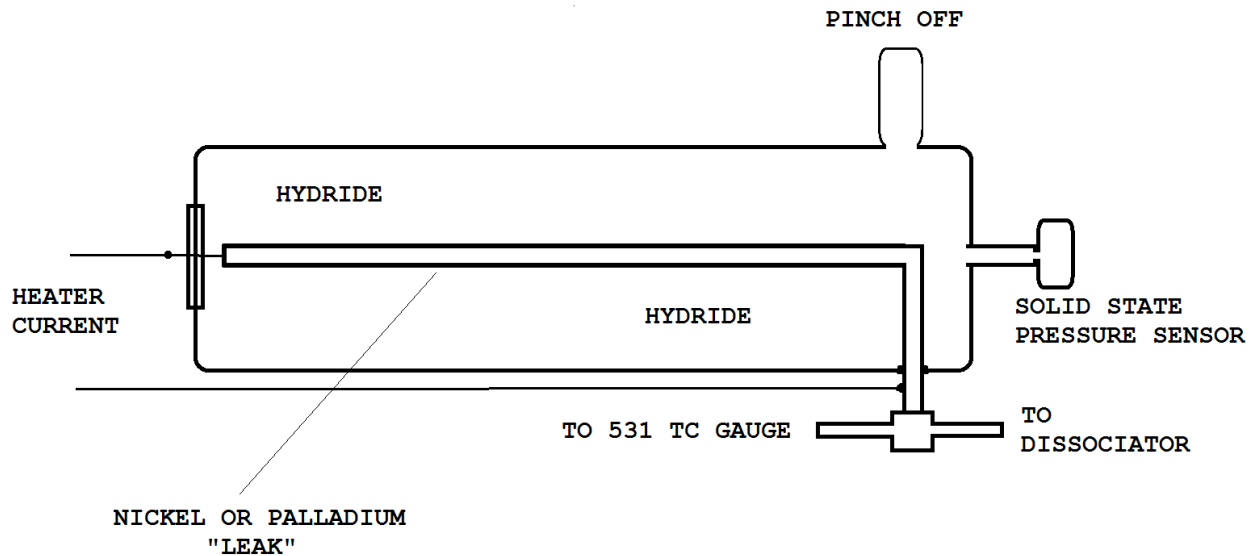
It is indeed a Hughes Maser and looks to be one of two engineering development models built. (not the CHYMNS) There are a couple very minor differences, (location of hydride canister and addition of hydride pressure monitor).



BLOCK DIAGRAM



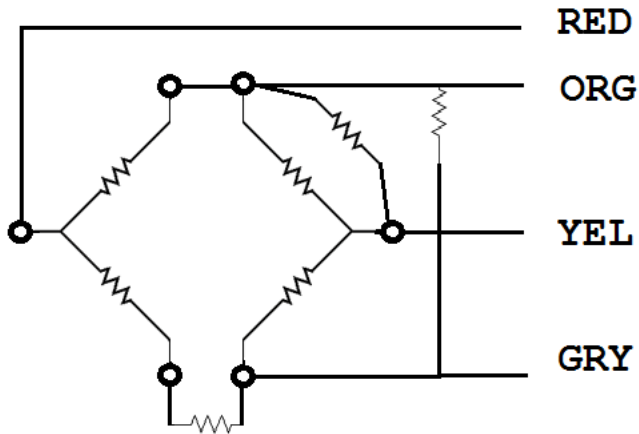
MECHANICAL DETAILS



PROBABLE INTERNAL CONFIGURATION OF HYDRIDE CANISTER

The construction of the hydride canister appears to be very close to the diagram above

Currently working on hooking up the solid state pressure sensor to check on the Hydrogen supply.



Excitation between org. and gry. (Probably 1.5ma)

Output between red and yel. (Probably 100mv full scale 25PSI)

From some web searching I think I've figured out how to interface to it.

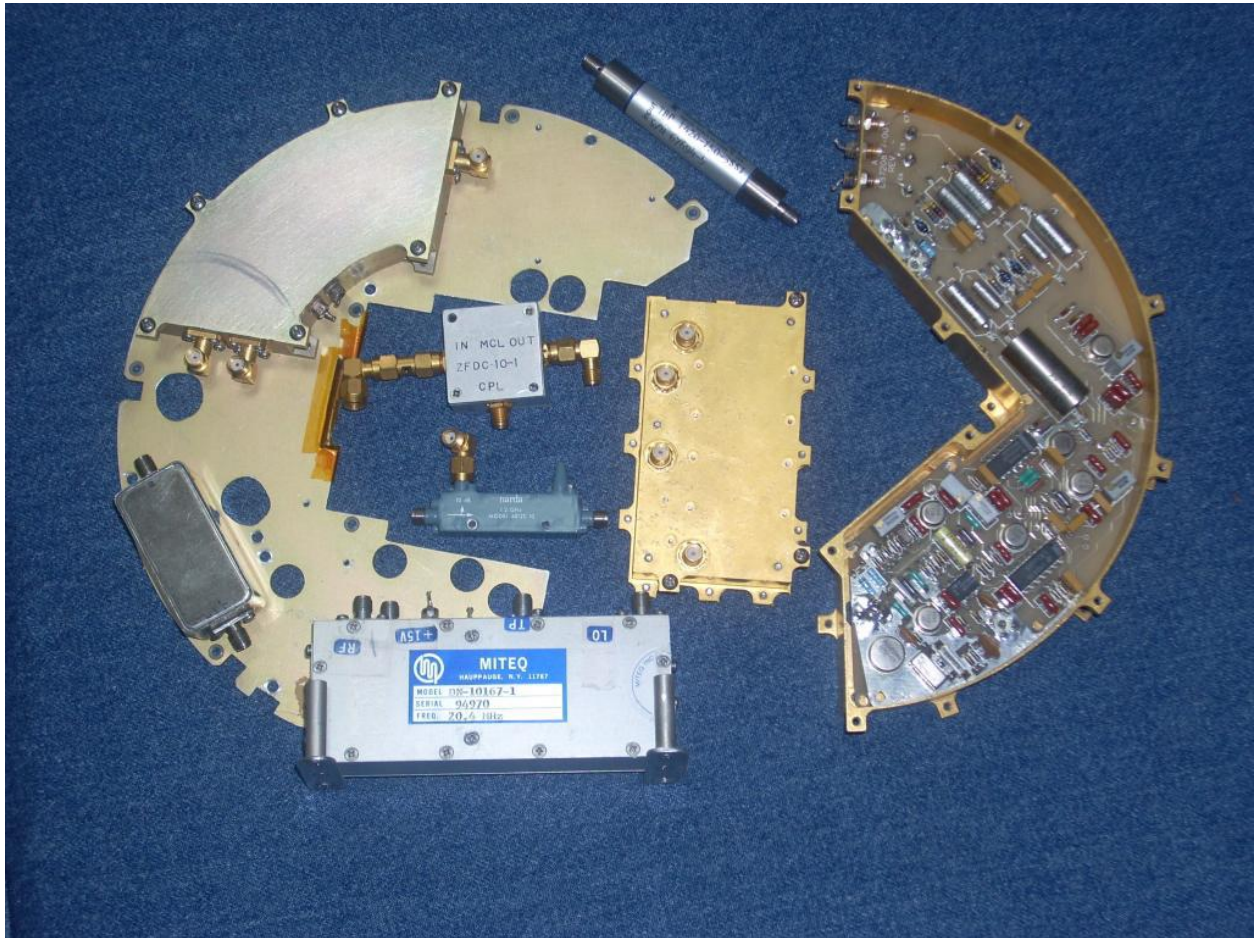
Parts have arrived, need to build the circuit and then I'll see what happens!

Also got the parts to build the 140 Mhz exciter for the hydrogen dissociator.

It will be adjustable in frequency from 138 to 142Mhz and amplitude from 5 to 10 Watts.

The design is a copy of the one I built to use in the EFOS2 Active Maser which has been working reliably!

If there is pressure in the canister I'll get the exciter finished and then see if I can light up the dissociator.



RF plate components CW from bottom.

LNA/mixer

XTAL filter

IF amp

Band-pass filter 1420 Mhz

Phase and amplitude control (gold box)

Directional couplers in the middle

Cavity loop processing circuits for varactor control. (PC board at right.)

