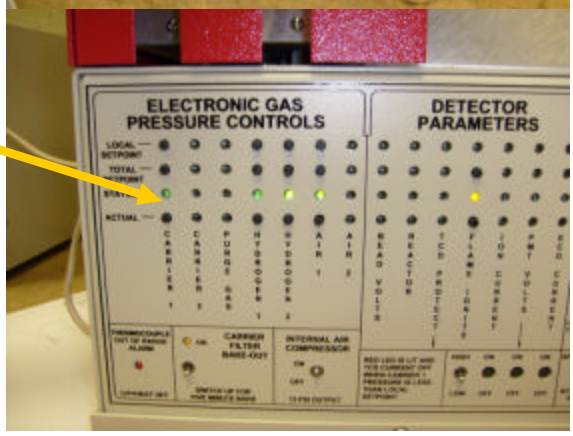
Operation of the SRI Mudlogger GC with the H2-40 Hydrogen generator

The SRI Mudlogger GC configuration can be operated **without** compressed cylinder gases by using the SRI H2-40 Hydrogen generator and the built-in air compressor.

Since the Mudlogger GC uses two FID detectors the total amount of hydrogen required is close to the 40ml/minute capacity of the H2 generator. If hydrogen is also used as carrier gas the H2-40 makes just enough gas to run the Mudlogger GC, but care must be taken to optimize the gas flows so that no more than 40ml/minute is consumed.

The photos at right show the H2-40 connected to a Mudlogger GC. Note that the hydrogen is split three ways for carrier gas, FID#1 combustion and FID#2 combustion hydrogen.



On the GC, the Carrier gas is set to 3psi, the FID#1 combustion H2 is set to 3psi and the FID#2 (the FID which measures total hydrocarbons) combustion H2 is set to 18psi. The FID#1 combustion H2 is set to 3psi because the carrier gas is also hydrogen so the total amount of hydrogen going to FID#1 is the sum of the carrier plus the combustion H2.

A typical natural gas chromatogram is shown at right. Because the amount of H2 is limited to 40ml/minute, the analysis time (5 min) is a little longer than it would be if the carrier gas flow could be increased. Unfortunately the carrier flow must be limited so the H2-40 cycles on and off. Use a stopwatch to measure the amount of time the H2-40 spends generating hydrogen compared to the time it spends resting. This ratio should be at least 4 to 1. So if the H2-40 spends 4 minutes making gas it should rest for 1 minute.