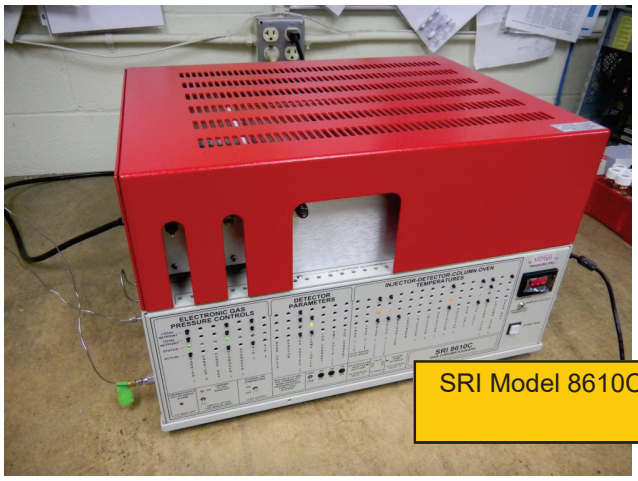
Multiple Gas#5 GC configuration
Jan 2016

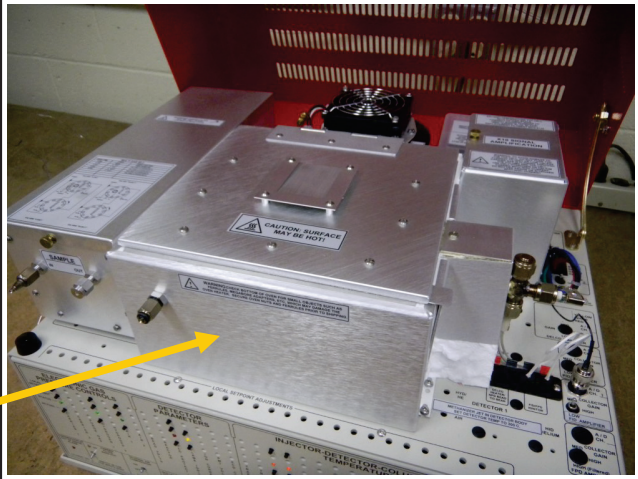
History:
Unfortunately there is no single column that can separate:
Hydrogen
Oxygen
Nitrogen
Methane
CO
CO2
Ethane
Water
Propane
Butane
Pentane

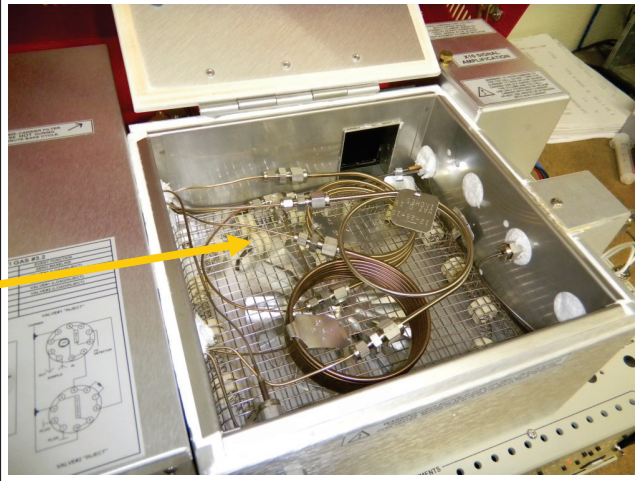
Over the years SRI Instruments has devised several solutions to this analytical problem, starting with the MultipleGas#1 configuration and evolving to the present MultipleGas#5 configuration.

Like the earlier MG GCs the 8610C chassis includes an ambient to 400C programmable column oven.

Inside the column oven are three columns. There can be additional columns, but the basic MG5 includes:
.5 meter Haysep-D precolumn
2 meter MoleSieve 5A column
2 meter Haysep D column


SRI Model 8610C





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Multiple Gas Analyzer #1 GC System

Separates multiple gases with a single injection

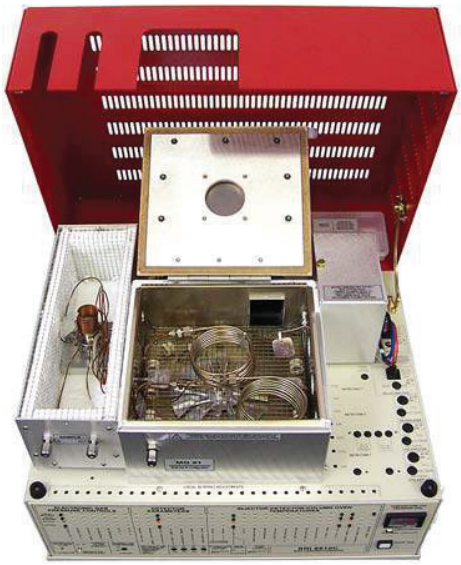
Very tolerant of user adjustments and timing variations

Simpler than other multiple gas capable systems

The basic model includes:

- **TCD Detector**
- **Two Columns - MoleSieve 13X & Silica Gel**
- **10-port Gas Sampling Valve and Loop**
- **1 channel PeakSimple Data System**

...on the compact 8610C chassis



The SRI Multiple Gas Analyzer #1 GC System (MG#1) can separate multiple gases with a single injection. It is pre plumbed and ready to resolve H_2, O_2, N_2, Methane, CO, Ethane, CO_2, Ethylene, NO_X, Acetylene, Propane, Butanes, Pentanes and C_6-C_8. The MG#1 is very tolerant of user adjustments and timing variations because it is simpler than other multi-gas capable systems. Unlike complicated and timing-critical gas analysis configurations with three or four columns and three or four valves, the SRI Multiple Gas Analyzer uses a single 10-port gas sampling valve and two packed columns: a 2 meter Molecular Sieve 13X and a 2 meter Silica Gel.

The basic Multiple Gas Analyzer #1 is equipped with a TCD detector for detection limits in the 200-500ppm range. The second option is a TCD-Methanizer-FID configuration, which provides 5ppm detection limits for CO, CO_2 and all hydrocarbons. The third option is a TCD-HID detector combination for detection limits in the 10ppm range for all analytes.

This chromatogram shows the separation of a 1% Gas Mix + 2% ethane sample on a basic TCD equipped MG#1.