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(54) Title: **PASSIVE INFRARED ANALYSIS GAS SENSORS AND APPLICABLE MULTICHANNEL DETECTOR ASSEMBLIES**

(57) Abstract

A passive source infrared gas detector (42) uses an ambient temperature source and the space between the detector assembly and the source as the sample chamber. The gas detector (42) includes an infrared detector assembly for producing first, second, and third outputs, the first output being indicative of the radiation received at a first non-neutral spectral band which is absorbable by a preselected gas to be detected, the second output being indicative of the radiation received at a first neutral spectral band from the passive infrared source, and the third output being indicative of the radiation received at a second neutral spectral band from the passive infrared source. Signal processing means manipulate the three outputs to determine the concentration of the gas being monitored. Additional detectors can be added to the detector assembly to detect radiation at spectral bands characteristic of additional gases.

