## The Sample Analysis Process

The normal instrumental process is as follows:

- **1. The Source:** Infrared energy is emitted from a glowing black-body source. This beam passes through an aperture which controls the amount of energy presented to the sample (and, ultimately, to the detector).
- **2. The Interferometer:** The beam enters the interferometer where the "spectral encoding" takes place. The resulting interferogram signal then exits the interferometer.
- **4. The Detector:** The beam finally passes to the detector for final mean memory. The detectors used are specially designed to measure the special interferogram signal.
- 5. The Computer: The measured signal of glazed and sent to the computer where the Fourier transformation ta as la e. or final infrared spectrum is transported the user for interpretation and any further manipulation.



Because there needs to be a relative scale for the absorption intensity, a **background** spectrum must also be measured. This is normally a measurement with no sample in the beam. This can be compared to the measurement with the sample in the beam to determine the "percent transmittance." This technique results in a spectrum which has all of the instrumental characteristics removed. Thus, all spectral features which are present are strictly due to the sample. A single background measurement can be used for many sample measurements because this spectrum is characteristic of the **instrument** itself.