64 which is connected to the power source represented at 66 for terminating its application of power to the pumps and a portion of the control circuity upon such initiation. By this means the power consumption of the system, when not required to operate, is minimized. As illustrated, a manual switch 67 is also provided to enable an operator to manually control the operation of the system.

When power is initially applied to the system by closisng switch 67, the cycle timer logic 56 automatically assumes the cycle complete mode. Power is then applied only to the timing means 38 for time setting and monitoring at display 44. It is only when the start cycle logic is energized that the output signal on line 63 is removed and power is applied to the full system, allowing normal operation to start with the beginning of the first 24 hour cycle as chosen by input to the 24 hour cycle time at terminal 80.

The output from the cycle complete logic also energizes an output connection 68. Such output connection can be connected, for example, to the start cycle input 57 of the logic of another air quality sample to initiate the latter's standby mode logic and hence its cycling operation.

The control instrumention further includes flow rate selection means for determining the rate of flow of gas into each respective one of the containers during the time interval within which its associated pump is activated. As previously mentioned, such flow rate selection means provides the desired average flow rate over the time it is desired to pump a sample into a particular container by intermittently operating the pump, rather than varying the operating rate of such pump. The flow rate selection means is represented in the diagram at 71 and includes a sample timer 72 providing intermittent energization on an output line 73. As illustrated, the output of the sample timer is connected with the third input 74 of each of the gates 33. Moreover, a multiposition switch 75 is provided for selectively connecting into the sample timer 72, differing delay components represented at 76, 77 and 78. Such delay components affect the timer logic 72 by changing the ON/OFF time relationships at the timer output. It will be recognized that by selecting which of the delay components 76–78 is connected with the timer 72, the rate at which the input 74 of each of the gates is intermittently energized can be changed.

Each of the tri-input gates 33 will only provide an output and operate its associated pump when all three of its inputs are energized. That is, the gas to be sampled will be directed into a container only when its associated gate is programmed by suitable connections with the output connection 37 and the cycle connections 59 to do so. Furthermore, because of the flow rate selection connection to the input 74 of each of the gates, such gate will cause intermittent operation of the pump during such time to obtain an average flow rate.

From the above, it will be seen that the present invention provides an air quality sampler which not only enables a plurality of gas samples to be obtained at differing times without operator attendance, but also enables the same to be programmed quite readily and simply for varying the times during which the samples are taken in different operations. Changes and modifications to the exemplary embodiment described will be apparent to those skilled in the art. It is therefore intended that the coverage afforded applicant be limited only by the language of the claims and its equivalent.

We claim:

1. A gas sampler comprising a plurality of gas sample containers; a plurality of generally constant flow pumps, the output of each one of which is communicably connected with an associated one of said containers for respectively directing a quantity of the gas to be sampled into each of the containers; and control means connectable with said pumps for governing when each of said pumps direects a gas sample into its associated container, said control means activating each of said pumps to direct a gas sample into its associated container during a discrete time interval selected especially for said container and including flow rate selection means for determining the rate of flow of gas into said containers, said flow rate selection means being adapted to operate each of said pumps intermittently at its generally constant operating flow rate during the full time interval selected for each of said containers to thereby provide an average flow rate over the full time interval which is less than the continuous operating flow rate of said pump while still obtaining a gas sample representative of the gas over said full time interval; and said flow rate selection means being adjustable to vary the period of said intermittent operation of said pumping means during the time interval selected for each of said containers and thereby provide a selected one of a plurality of differing average flow rates for said pumping means.

2. A gas sampler comprising a plurality of gas sample containers; a plurality of generally constant flow pumps, the output of each one of which is communicably connected with an associated one of said containers for respectively directing a quantity of the gas to be sampled into each of the containers; control means connectable with said pumps for governing when each of said pumps directs a gas sample into its associated container, said control means activating each of said pumps to direct a gas sample into its associated container during a discrete time interval selected especially for said container and including flow rate selection means for determining the rate of flow of gas into said containers, said flow rate selection means being adapted to operate each of said pumps intermittently at its generally constant operating flow rate during the full time interval selected for each of said containers to thereby provide an average flow rate over the full time interval which is less than the continuous operating flow rate of said pump while still obtaining a gas sample representative of the gas over said full time interval; and a battery power source for operating said pumps.

3. A gas sampler comprising a plurality of gas sample containers; a plurality of pumps, the output of each one of which is communicably connected with an associated one of said containers for respectively directing a quantity of the gas to be sampled into each of said containers; and control means connectable with said pumps for activating each of said pumps to direct a gas sample into its associated container during a discrete time interval selected especially for said container, said control means including programming means permitting the discrete time interval during which said pumping means directs a gas sample into each of said containers to be changed, which programming means includes a plurality of control output connections, each one of which is associated with one of said discrete time intervals and said control means further includes timing means for generating an output representative of the passage of time, time decoding means for receiving said