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(54) **METHOD AND APPARATUS FOR
PHYSIOLOGICAL DATA ACQUISITION VIA
SOUND INPUT PORT OF COMPUTING
DEVICE**

(52) **U.S. Cl. 600/513; 600/528; 381/67**

(57) **ABSTRACT**

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A sound input port is ubiquitously present in many types of devices including PCs, PDAs, cell phones, land line phones, and voice recorders thereafter referred to as "computing devices". A sound port allows data input into a computing device for further computation, visualization and data transmission. Unfortunately most computing devices only allow one channel of data acquisition via the sound port. Further, the acquired data are highpass filtered. A method of extending the signal range to very low frequencies and recording a plurality of data channels via a single sound port is disclosed here. This method uses amplitude modulation of carrier frequencies to create a composite signal. The composite signal is then transmitted into the computing device either via wire or wirelessly. Demodulation occurs in the computing device. In the preferred embodiment the audio signal from an electronic stethoscope and the amplitude modulated EKG are transmitted into a computer via a single microphone port. In an alternative embodiment physiological data from multiple sensors are transmitted into a computer via a single microphone port.

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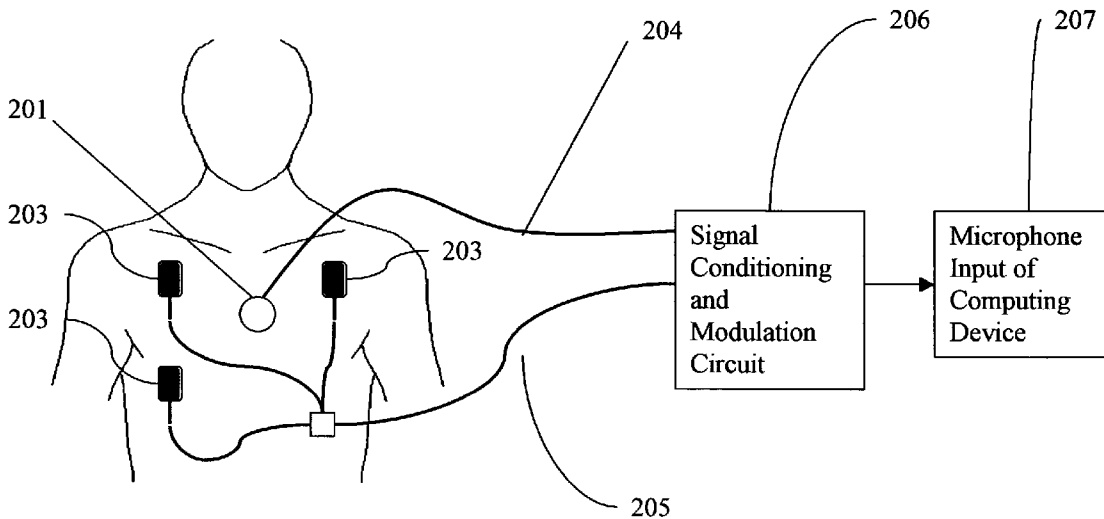


Figure 1A.

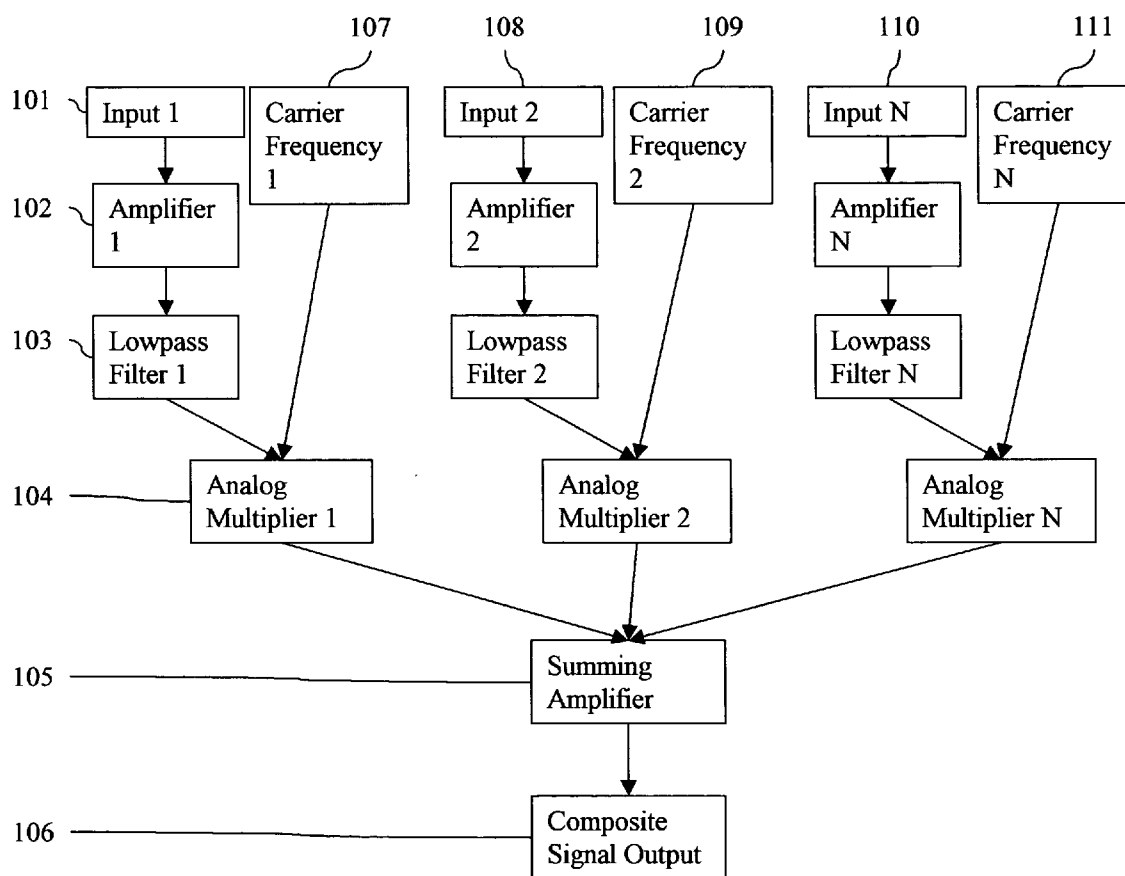


Figure 1B

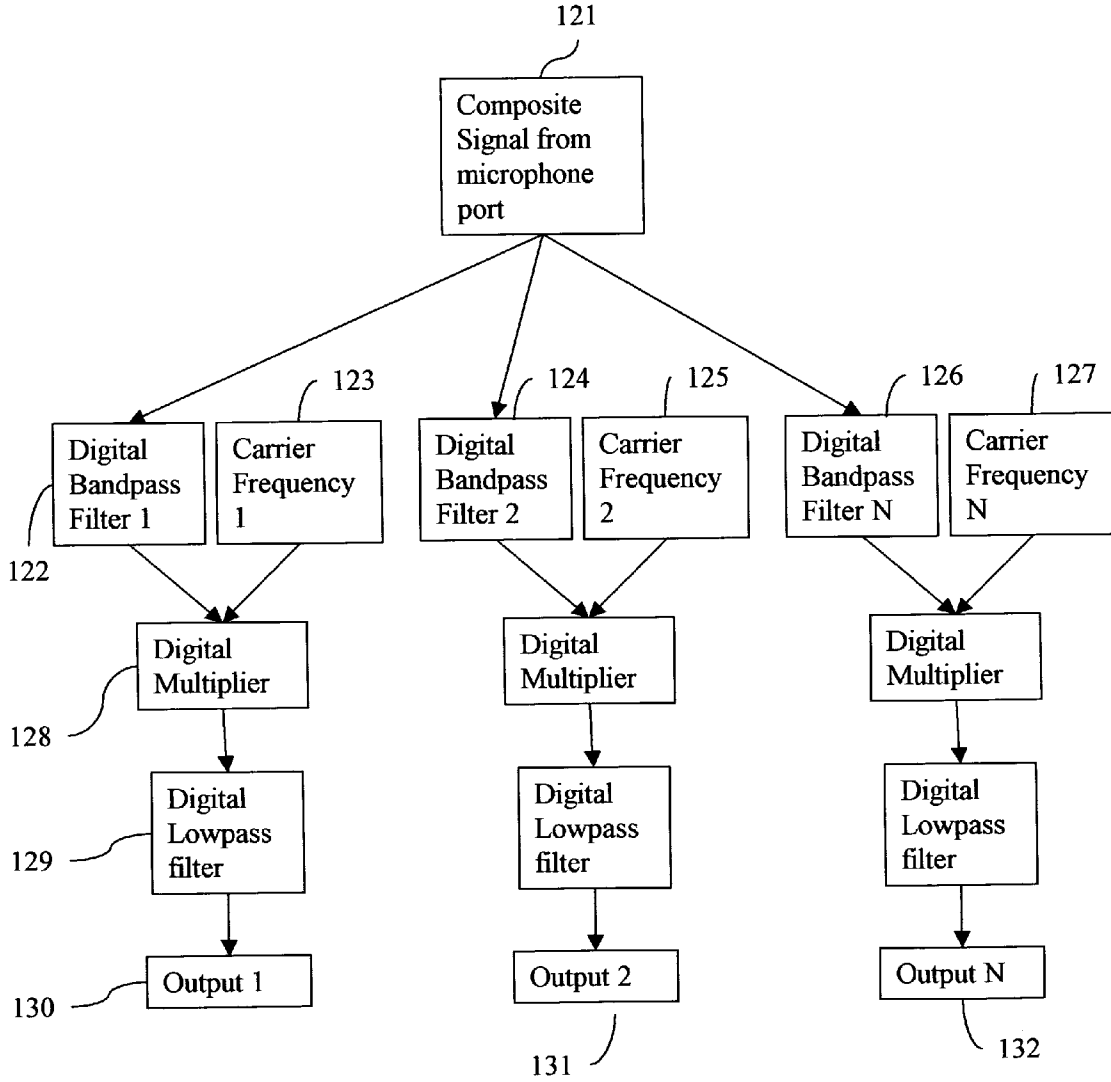


Figure 2.

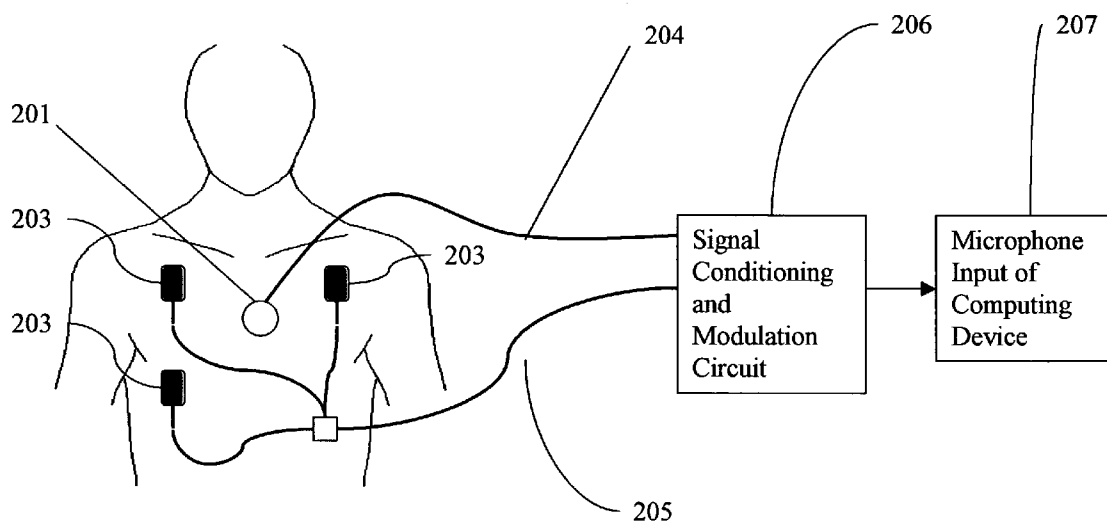
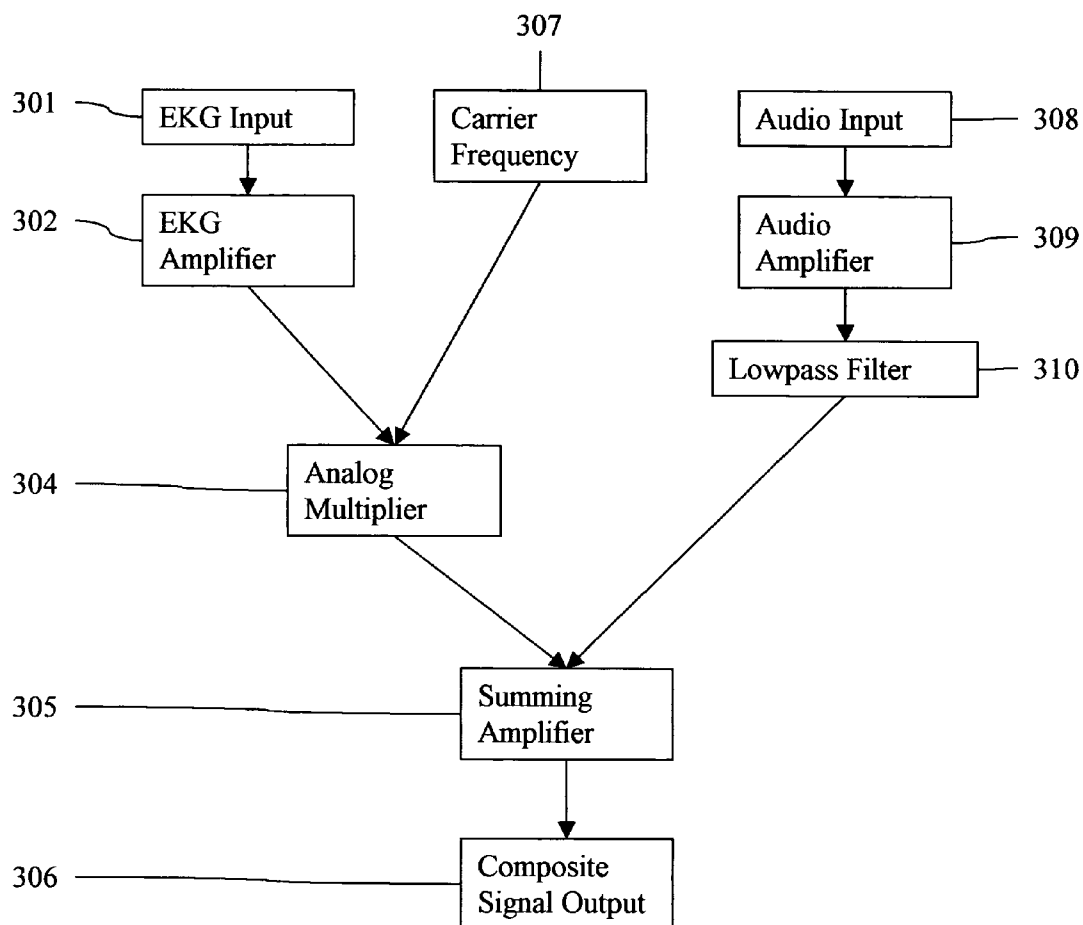


Figure 3



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