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(54) Title: SYSTEM AND METHOD FOR MEASURING AND VALIDATING THE OCCLUSION EFFECT OF A HEARING AID USER

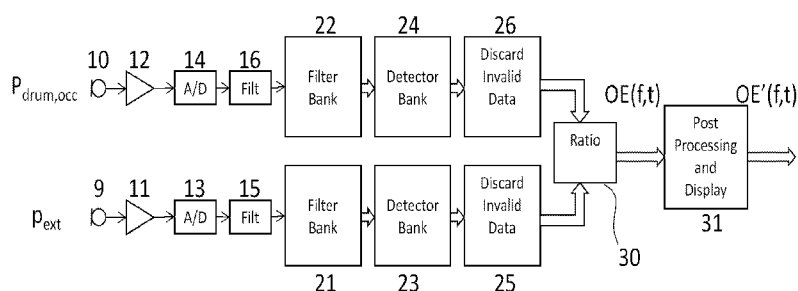


Fig. 2

(57) **Abstract:** A system for estimating the occlusion effect comprising a hearing aid adapted for being set up for operation in an occlusion measurement mode. The hearing aid comprises a first transducer (9) for transforming an acoustic sound level external to a hearing aid user's ear canal into a first electrical signal. The hearing aid comprises a second transducer (10) for transforming the acoustic sound level in the occluded ear canal into a second electrical signal. The system comprises analogue to digital converters (13, 14) for converting signals from the first and second transducer into digitized electrical signals, and signal processing means comprising a filter bank (21, 22) for splitting the first and the second digitized electrical signals into a first and a second band split digitized electrical signal, respectively. The system further comprises sound pressure estimating means for estimating the sound pressure in each frequency band for both the first and the second band split signal, and leakage estimating means for estimating the leakage of signal into a signal band from other bands due to non ideal band pass filtering. The system is adapted such that the estimated sound pressure must be a factor $\sqrt{r}$ larger than the estimated leakage when deciding if the estimated sound pressure in a given band can be applied in the calculation of the occlusion effect.