

AbstractMethods and Devices for Preprocessing signals for a loudspeaker

- 5 Audio signals to be modulated onto an ultrasonic carrier wave and transmitted
by an ultrasonic loudspeaker 40, are preprocessed in frequency space by
weighting each of the frequency components by a predetermined weighting
coefficient. Furthermore it is ensured that the positive frequencies, or
alternatively the negative frequencies, are removed before the audio signal is
10 converted back to the time domain, so that when the ultrasonic signal is
modulated by the preprocessed audio signal, a single sideband (SSB)
ultrasonic signal is obtained. The weighting operation may be performed by a
relatively simple processing operation, so that the processing requirements are
low and good results can be achieved even if the transducer 40 has a relatively
15 narrow bandwidth 25.

[Fig. 2]



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