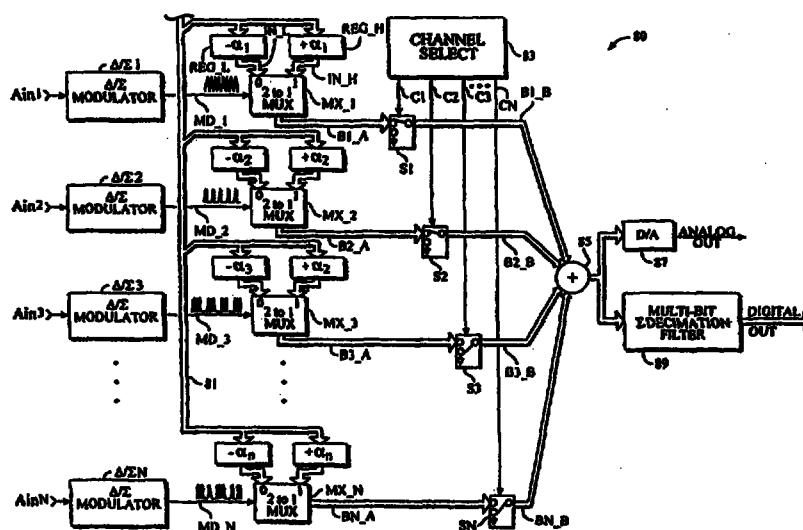




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(54) Title: INTEGRATED AUDIO MIXER



(57) Abstract

An integrated, multi-input audio mixer 80 receiving a plurality of analog input signals A_{in1} to A_{inN} , internally digitizing the analog input signals, digitally processing and mixing the digitized input signals and producing both digital and analog representations of the mixed inputs. All analog inputs A_{in1} to A_{inN} are applied to half of a full delta-sigma analog-to-digital converter. That is, each input is applied to a respective delta-sigma modulator $\Delta/\Sigma 1$ to $\Delta/\Sigma N$, but all the delta-sigma modulators $\Delta/\Sigma 1$ to $\Delta/\Sigma N$ share a single sigma-decimation filter 89. The output of each delta/sigma modulator $\Delta/\Sigma 1$ to $\Delta/\Sigma N$ controls a respective multiplexer Mx_1 to Mx_N having a separate input channel for each quantization level of its respective delta/sigma modulator. The output of the multiplexers is selectively applied to a summing circuit 85. The output from the summing circuit is applied to a D/A converter 87 to provide an analog output, and is also applied to the single sigma-decimation filter 89, which recovers the mixed data from the delta/sigma modulators.