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United States Patent [19] Sedlmeyer et al.

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[45] Date of Patent: **Apr. 14, 1998**

[54] **PROCESS FOR FINDING THE OVERALL MONITORING THRESHOLD DURING A BIT-RATE-REDUCING SOURCE CODING**

4,972,484 11/1990 Theile et al. 395/2.36
5,353,375 10/1994 Gotu et al. 395/2.39

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FOREIGN PATENT DOCUMENTS

0176243 4/1986 European Pat. Off. .
0420745A2 4/1991 European Pat. Off. .
0424162A2 4/1991 European Pat. Off. .
88/04117 6/1988 WIPO .
88/10035 12/1988 WIPO .

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§ 102(e) Date: **Sep. 17, 1993**

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PCT Pub. Date: **Feb. 4, 1993**

Related U.S. Application Data

[63] Continuation of Ser. No. 119,109, Sep. 17, 1993, abandoned.

[30] Foreign Application Priority Data

Jul. 24, 1991 [DE] Germany 4124493.1

[51] **Int. Cl.⁶** **G10L 7/02; H04B 1/66**

[52] **U.S. Cl.** **395/2.36; 395/2.14; 395/2.92**

[58] **Field of Search** **395/2, 2.1, 2.35–2.39, 395/2.92, 2.14, 2.15; 381/36–40**

[56] References Cited

U.S. PATENT DOCUMENTS

4,862,346 8/1989 Wagner et al. 395/400

[57] ABSTRACT

Source coding digitized audio signals includes providing time or spectral domain sampling values of the digitized audio signal, requantizing the sampling values according their permissible quantizing noise as determined by a coding and requantizing control signal, and multiplexing the control signal and the requantized sampling values into a time multiplex frame depending on the bit rate reduction employed. The coding and requantizing control signal is determined from the sampling values by determining the global masking effect from all relevant maskers which are tonal maskers and noise maskers, and which result from the sampling values, and from a silence audio threshold. The global masking effect is determined by segmenting masking edges of possible maskers and approximating in individual segments with lower order polynomials, and determining coefficients of the lower order polynomials, converting the maskers into logarithmic levels and using intensities of the maskers to determine the coefficients of the lower order polynomials, and determining the global masking threshold, step-wise, masker by masker, at individual possible base points, from the polynomials describing masking edges of the possible maskers.

18 Claims, 6 Drawing Sheets

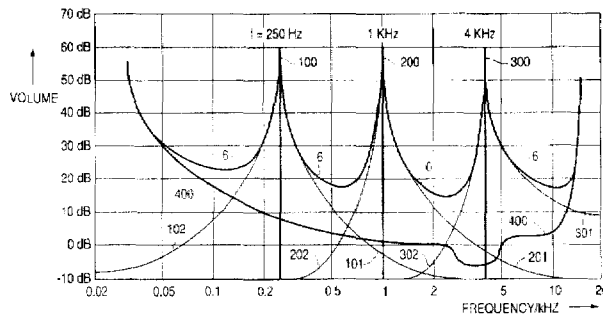
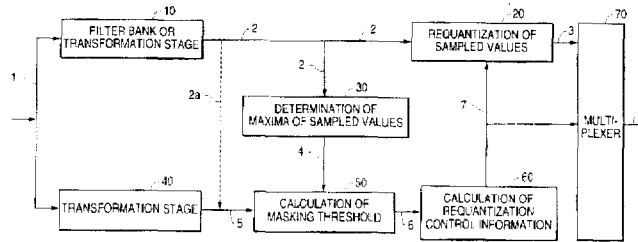


FIG. 1

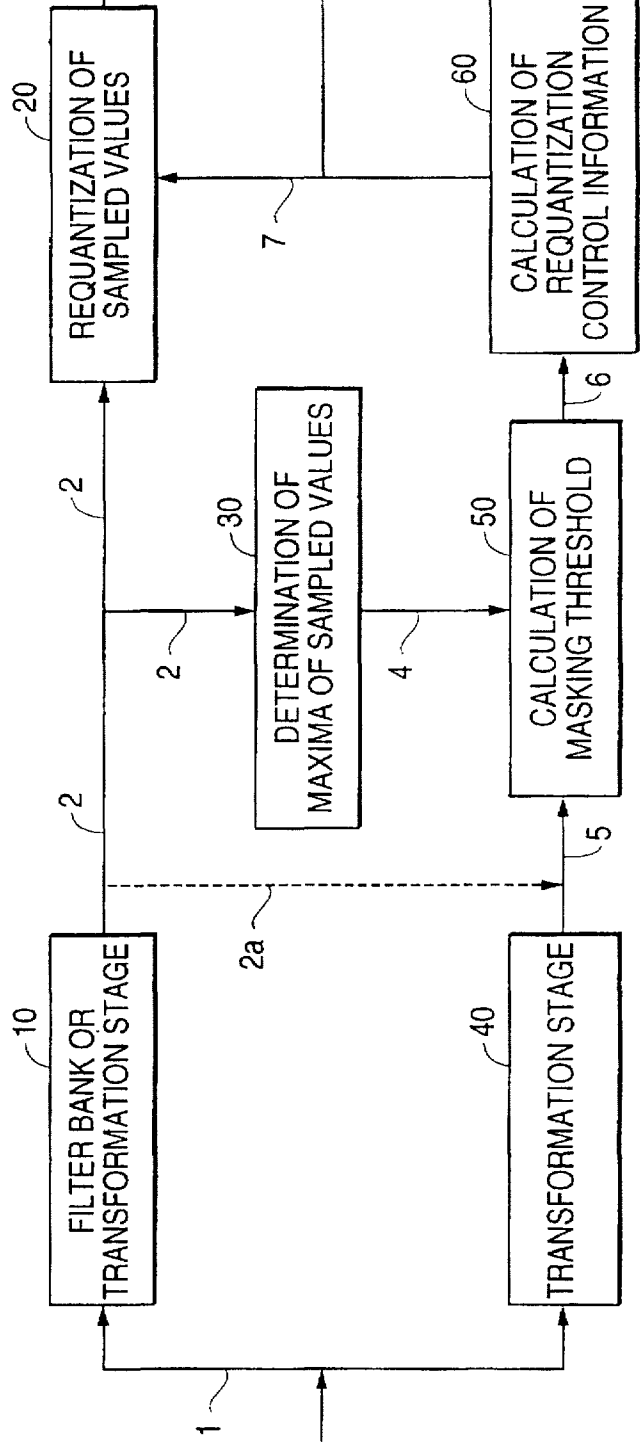


FIG. 2

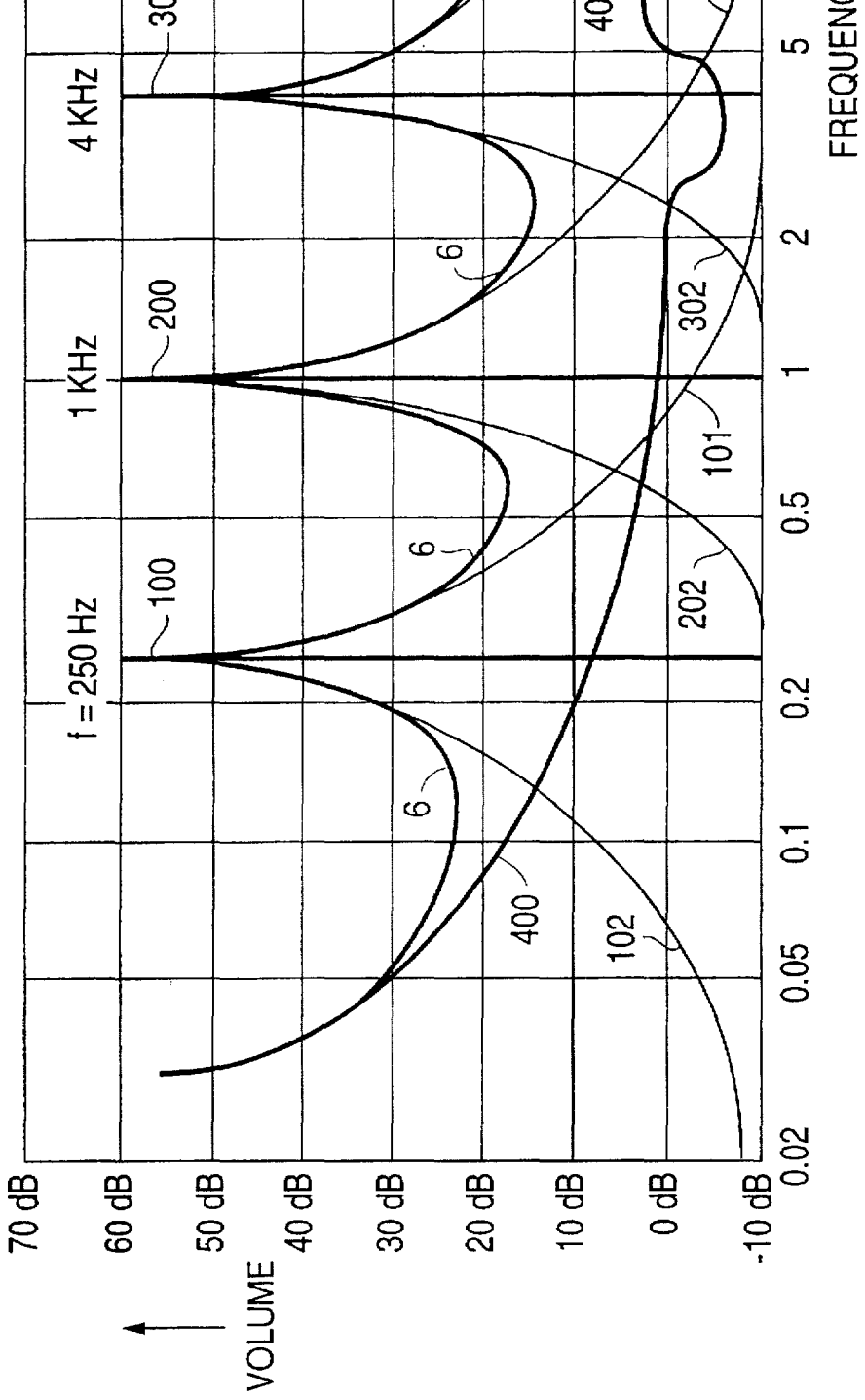


FIG. 3

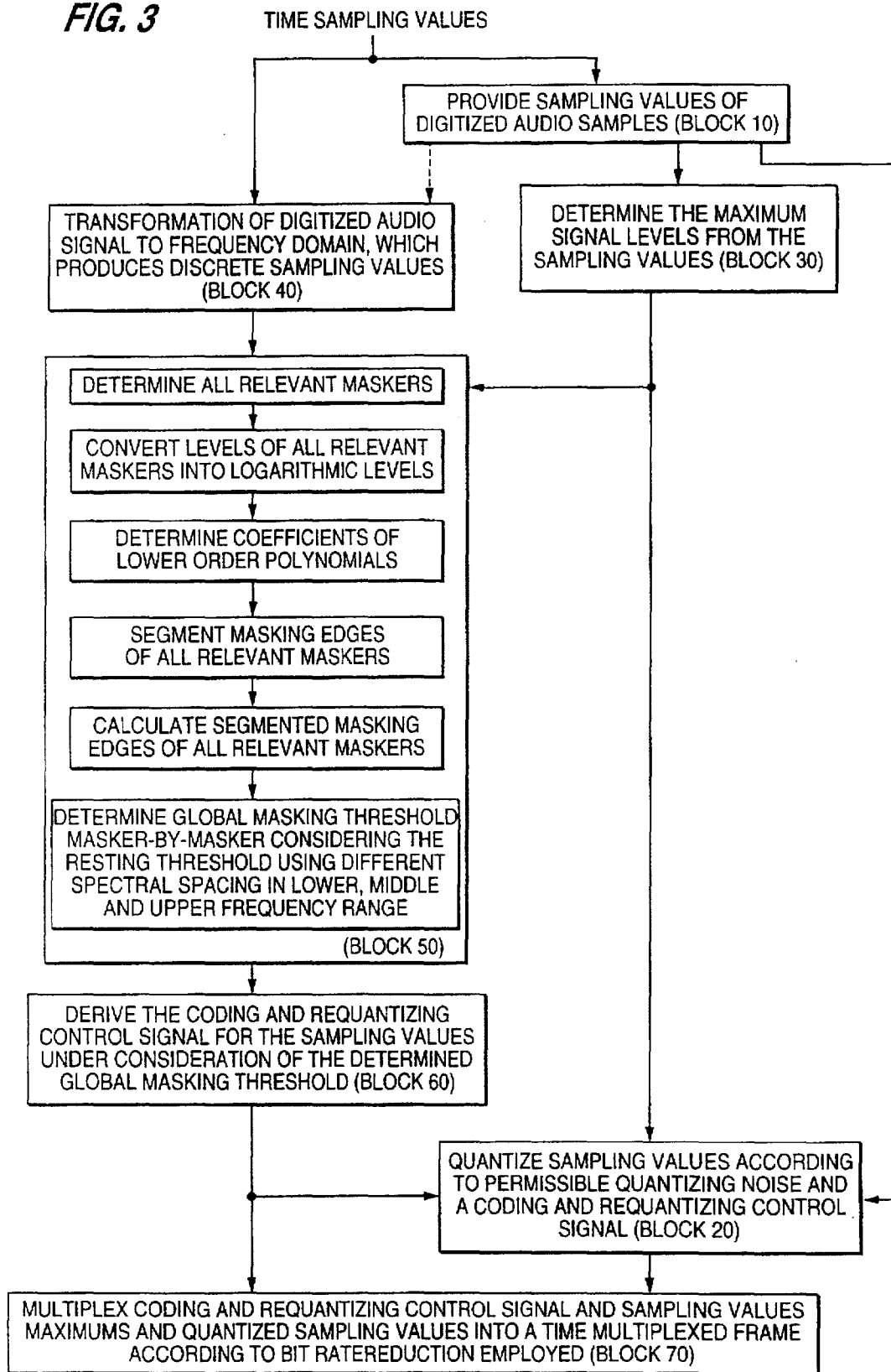
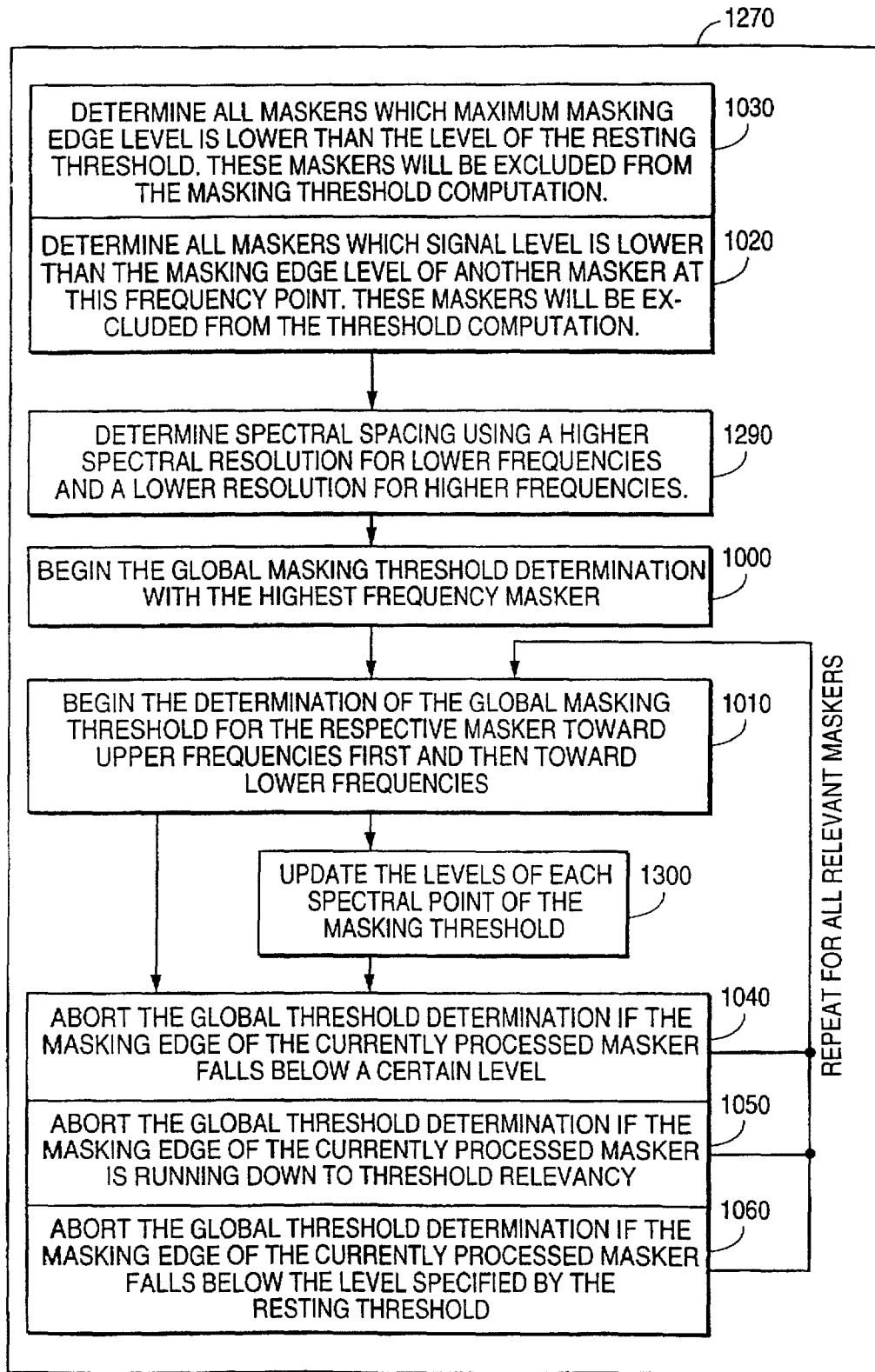


FIG. 4



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