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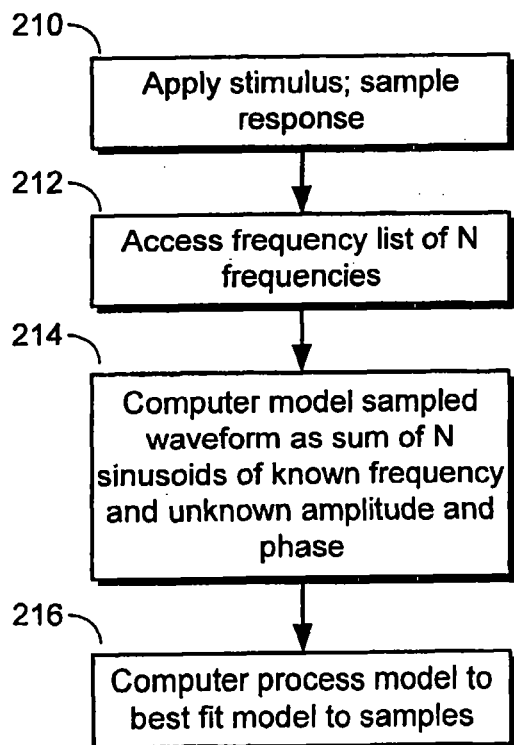
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09/896,788 **29 June 2001 (29.06.2001) US**(71) Applicant: **TERADYNE, INC.** [US/US]; 321 Harrison Avenue, Boston, MA 02118 (US).(72) Inventor: **DIONNE, Gregory, E.**; 115 Oakland Avenue, Arlington, MA 02476 (US).(74) Agents: **RUBENSTEIN, Bruce, D.** et al.; Teradyne, Inc., 321 Harrison Avenue, Boston, MA 02118 (US).(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW.(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).**Published:**

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.(54) Title: **LOW LEAKAGE TECHNIQUE FOR DETERMINING POWER SPECTRA OF NON-COHERENTLY SAMPLED DATA**

(57) Abstract: A technique for determining the amplitudes of frequency components of a waveform sampled from an automatic test system includes assembling a list of N frequencies expected to be found in the sampled waveform. A test program running on the tester generally supplies the list of frequencies. The technique assumes that the sampled waveform conforms to an idealized waveform model that mathematically corresponds to a sum of N sinusoids. Each of the N sinusoids that make up the model has unknown amplitude and a frequency that equals one of the N frequencies in the list of frequencies. The technique attempts to solve for the unknown amplitude of each of the N frequencies by mathematically minimizing, via a linear least-squares algorithm, the difference between the model and the actual, sampled waveform.

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