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United States Patent [19] Torgrim

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[54] **AUTOMATIC CALL DISTRIBUTION WITH ANSWER MACHINE DETECTION APPARATUS AND METHOD**

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1-133455 5/1989 Japan .
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Error Reduction Method for a Digital Signal Processing Voice and Audible Telephone Ring Tone Detection Algorithm, IBM Technical Disclosure Bulletin, vol. 28, No. 9, pp. 4059-4060, Feb., 1986.

[21] Appl. No.: **669,665**

"Error Reduction Method for a Digital Signal Processing Voice and Audible Telephone Ring Tone Detection Algorithm", IBM Technical Disclosure Bulletin, vol. 28, No. 9, Feb. 1986 pp. 4059-4060.

[22] Filed: **Jun. 24, 1996**

Related U.S. Application Data

[63] Continuation of Ser. No. 313,973, Sep. 28, 1994, abandoned.

[51] Int. Cl.⁵ **H04M 3/22**

[52] U.S. Cl. **379/372; 379/80; 379/265; 379/386**

[58] Field of Search 379/67, 69, 80, 379/88, 89, 351, 372, 386, 265, 266, 309

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[57] ABSTRACT

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An automatic call distributor (10) having a multiport switch (12) controlled by a central control processing unit (14) and an associated memory (16) for receipt of audio voice energy from answered telephonic calls through an external telephonic public switching network (22) to selectively connect the answered calls with internal telephonic units (18) coupled with the multiport switch (12) provided with a digital signal processing circuit card (30) for determining the presence of an answering machine (24) by running a pause timer and a delay timer which disables execution of the pause timer to establish a first minimum time period that an initial pause in the received voice energy from an external telephonic unit (20) must exceed to indicate the presence of a live voice in which the pause timer is disabled from timing any pauses until the end of a delay time interval, a second minimum time period which is no longer than the first minimum time period that a pause must exceed after the lapse of the delay time interval and detecting a live voice upon lapse of the first time period before the end of the initial pause or lapse of the second time period before the end of any pause after the initially measured pause.

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11 Claims, 5 Drawing Sheets

