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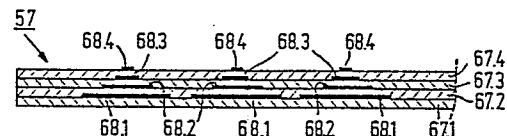
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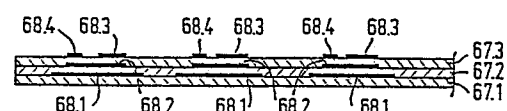
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**Loudspeaker system and loudspeaker for converting an n-bit digitalized electric signal into an acoustic signal.**

An electrodynamic transducer (1) for use in a loudspeaker system for converting an n-bit digitized electric signal (11) into an acoustic signal comprises n voice-coil devices (4.1, 4.2, ... 4.n) which cooperate with a magnet system (3). The voice-coil devices each comprise a conductor whose length is the same for all the voice-coil devices. The areas of the perpendicular cross-sections of the conductors increase each time by a factor of two starting from the voice-coil device (4.n) corresponding to the least significant bit and going to voice-coil devices corresponding to consecutive more significant bits. In accordance with the invention steps are proposed which enable such a transducer to be constructed in a simple manner if the transducer is a ribbon-type loudspeaker.



**FIG. 4B**



**FIG. 4C**



| DOCUMENTS CONSIDERED TO BE RELEVANT   |  |   |   |
|---|--|---|---|
| Category  | Citation of document with indication, where appropriate, of relevant passages  | Relevant to claim   | CLASSIFICATION OF THE APPLICATION (Int. Cl.4) |
| D,Y   | PATENT ABSTRACTS OF JAPAN, vol. 7, no. 111 (E-175)[1256], 14th May 1983; & JP-A-58 31 699 (PIONEER K.K.) 16-11-1982<br>* Whole abstract *  | 1,4   | H 04 R 9/00<br>H 04 R 9/06<br>H 04 R 23/00    |
| Y   | US-A-4 242 541 (O. ANDO)<br>* Claim 1; figure 10; column 6, lines 33-52 *  | 1,4   |   |
| A   | US-A-3 674 946 (J.M. WINEY)<br>* Figures 6,7,8; column 6, lines 20-39 *  | 1,4   |   |
| D,A   | PATENT ABSTRACTS OF JAPAN, vol. 7, no. 33 (E-157)[1178], 9th February 1983; & JP-A-57 185 798 (SONY K.K.) 16-11-1982<br>* Whole abstract * | 1,4   |   |
|   |  |   | TECHNICAL FIELDS SEARCHED (Int. Cl.4)         |
|   |  |   | H 04 R  |
| The present search report has been drawn up for all claims  |  |   |   |
| Place of search<br>THE HAGUE  |  | Date of completion of the search<br>02-02-1988  | Examiner<br>MINNOYE G.W.                      |
| CATEGORY OF CITED DOCUMENTS   |  | T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>.....<br>& : member of the same patent family, corresponding document |   |
| X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document |  |   |   |