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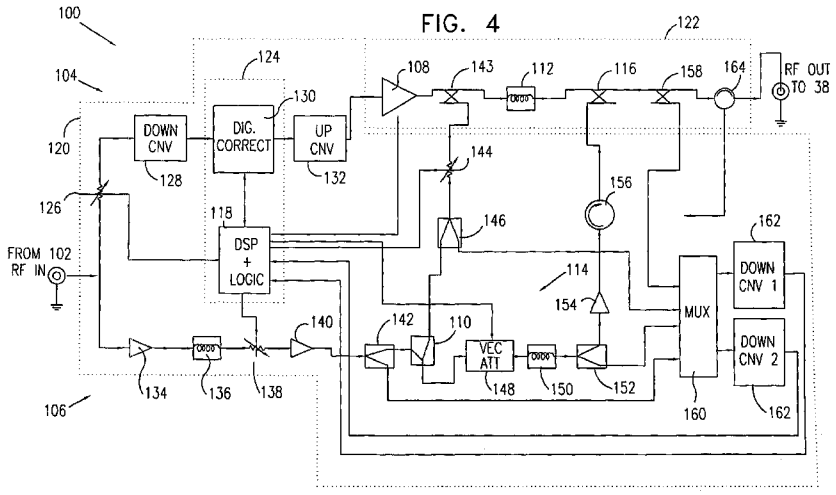
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(54) Title: SUPER-LINEAR MULTI-CARRIER POWER AMPLIFIER

FIG. 4




(57) Abstract: A super-linear feedforward amplifier (100), for amplifying radio-frequency input signals produced in one or more frequency channels over an input band, includes a radio-frequency power amplifier (108), which amplifies the signals. A signal cancellation circuit loop (103) generates an error signal responsive to distortion products in the amplified signals. A digital correction block (104) digitally equalizes the input signals responsive to a transfer function of the amplifier, whereby the input signals are substantially canceled out of the error signal over the entire input band. An error cancellation circuit loop (105) subtracts the error signal from the amplified signals to generate a linearized output signal.

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# INTERNATIONAL SEARCH REPORT

International application No.
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**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) :H03F 1/26, 1/32; H04K 1/02
US CL :330/149, 151; 375/296, 297
According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 330/149, 151; 375/296, 297

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

USPTO APS WEST, EAST

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| X<br>---<br>A | US 5,929,704 A (PROCTOR, JR. et al.) 27 July 1999 (27-07-1999), col. 4, lines 1-67, cols.5, 6, lines 1-67. | 1-6, 8-10, 13, 14, 16, 17, 19-22, 30, 33, 36<br>------<br>7, 11-12, 15, 18, 23-29, 31-32, 34-35 |
| A | US 5,334,946 A (KENINGTON et al.) 04 August 1994 (04-08-1994), col. 8, lines 1-68. | 1, 13, 16 |
| A | US 5,574,400 A (FUKUCHI) 12 November 1996 (12-11-1996), col. 5, lines 1-67. | 1, 13, 16 |

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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| Date of the actual completion of the international search | Date of mailing of the international search report |
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| Name and mailing address of the ISA/US<br>Commissioner of Patents and Trademarks<br>Box PCT<br>Washington, D.C. 20231<br>Facsimile No. (703) 305-3230 | Authorized officer<br>KHANH V. NGUYEN<br>Telephone No. (703) 306-9058 |

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