



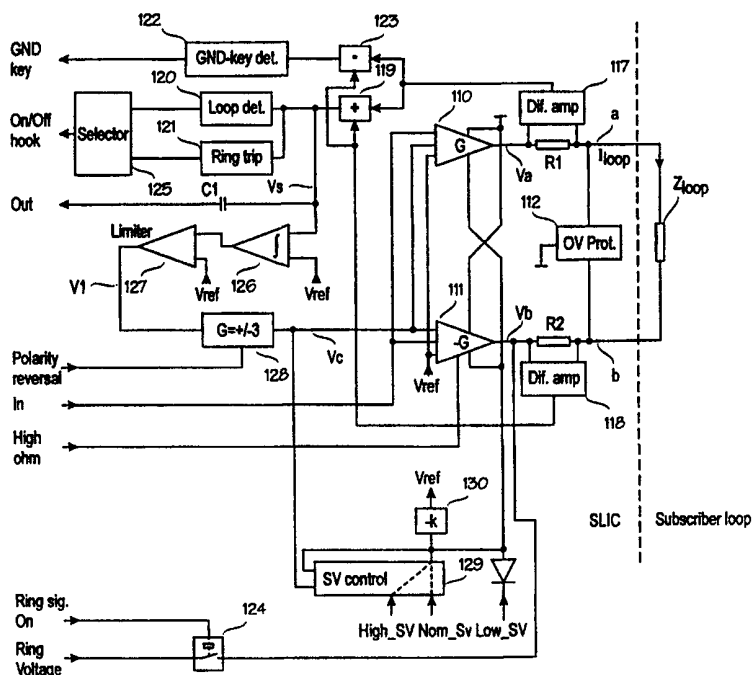
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(71) Applicant (for all designated States except US): NOKIA TELECOMMUNICATIONS OY [FI/FI]; Keilalahdentie 4, FIN-02150 Espoo (FI).			
(72) Inventors; and (75) Inventors/Applicants (for US only): NORDSTRÖM, Caj [FI/FI]; Kirstinmäki 13 B 27, FIN-02760 (FI). HURME, Harri [FI/FI]; Kaskenkaatantatie 18 C 32, FIN-02100 Espoo (FI).			
(74) Agent: KOLSTER OY AB; Iso Roobertinkatu 23, P.O. Box 148, FIN-00121 Helsinki (FI).			
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(54) Title: SUBSCRIBER LINE INTERFACE CIRCUIT

(57) Abstract

An output stage of a subscriber line interface circuit comprises two amplifiers, a first (111) one of which is configured to operate as an inverting amplifier (negative amplification) and a second (110) one as a non-inverting amplifier (positive amplification). Each amplifier has an output connected to a respective wire (a, b) in a subscriber line. A common reference voltage (V_{ref}) and a common control voltage (V_c) are supplied to each amplifier (110, 111). The reference voltage (V_{ref}) is used for setting the average voltage of the subscriber line. The control voltage (V_c) level determines the offset of the amplifier output voltages (V_b , V_a) from the average voltage. The difference between the amplifier output voltages provides the subscriber line supply voltage which, together with subscriber loop resistance, determines loop current (I_{loop}). Loop current is measured (R_1 , R_2 , 117, 118) separately from each subscriber line wire and the measurement results are summed, a possible common mode interference being thereby cancelled. If loop current is too high, a control member (126) changes the control voltage, with a predetermined time constant, to a direction which reduces the amplifier output voltages (V_a , V_b). The voltage difference between the subscriber line wires (a, b) thus becomes smaller and the loop current increases. When the measured loop current reaches a desired value, the control voltage (V_c) produced by the control member (126) sets at the voltage level reached. As a result, a very simple and inexpensive subscriber line power supply and loop current control is obtained.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 98/00901

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: H04M 19/00

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)

IPC6: H04M

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

SE,DK,FI,NO classes as above

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

WPI

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4317963 A (RAMON C.W. CHEA, JR.), 2 March 1982 (02.03.82), column 3, line 3 - column 5, line 58, figures 3-7 --	1-12
Y	GB 2193063 A (KABUSHIKI KAISHA TOSHIBA), 27 January 1988 (27.01.88), column 10, line 1 - line 47, figure 6 --	1-12
Y	US 4853959 A (HANS W. JOHANSSON), 1 August 1989 (01.08.89), column 1, line 9 - column 5, line 28, figures 2-4, abstract --	4-5

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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Name and mailing address of the ISA/

Swedish Patent Office

Box 5055, S-102 42 STOCKHOLM

Facsimile No. +46 8 666 02 86

Authorized officer

Roland Landström/MN

Telephone No. +46 8 782 25 00

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PCT/FI 98/00901

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4431868 A (DANIEL M. BOLUS ET AL), 14 February 1984 (14.02.84), column 3, line 38 - line 44, figures 1-8 --	7
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INTERNATIONAL SEARCH REPORT

Information on patent family members

01/06/99

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