

9705734-3

IPOS

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6: H03G 7/06	A2	(11) International Publication Number: WO 97/33366 (43) International Publication Date: 12 September 1997 (12.09.97)
(22) International Application Number: PCT/IB97/00200 (22) International Filing Date: 5 March 1997 (05.03.97) (30) Priority Data: 196 08 861.5 7 March 1996 (07.03.96) DE (71) Applicant: PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL). (71) Applicant (for DE only): PHILIPS PATENTVERWALTUNG GMBH [DE/DE]; Röntgenstrasse 24, D-22335 Hamburg (DE). (71) Applicant (for SE only): PHILIPS NORDEN AB [SE/SE]; Kottbygatan 7, Kista, S-164 85 Stockholm (SE). (72) Inventor: DICK, Burkhard; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). (74) Agent: PETERS, Carl, H.; Internationaal Octrooibureau B.V., P.O. Box 220, NL-5600 AE Eindhoven (NL).	(81) Designated States: CN, JP, KR, SG, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>Without international search report and to be republished upon receipt of that report.</i>	

(54) Title: **CIRCUIT ARRANGEMENT COMPRISING A LOGARITHMIC TRANSFER FUNCTION**

(57) Abstract

A description is given of a circuit arrangement comprising a logarithmic transfer function between an input signal and an output signal in a predefined level range of the input signal, comprising a pair of amplifier elements forming a first differential amplifier, the main current paths of which amplifier elements are connected, on the one hand, to each other and to a first current source and on the other hand, to working impedances subdivided by respective taps, and the control terminals of which amplifier elements are supplied with the input signal; a pair of amplifier elements forming a second differential amplifier, the main current paths of which amplifier elements are connected, on the one hand, to each other and to a second current source and on the other hand, to the connections of the main current paths of the first differential amplifier and the working impedances, and whose control terminals are cross-connected to the taps of the working impedances; and a rectifier stage whose input is connected to the connections of the main current paths of the differential amplifiers and the working impedances and whose output signal is tapped from its output. This circuit arrangement has a very low power consumption and low circuit complexity.

