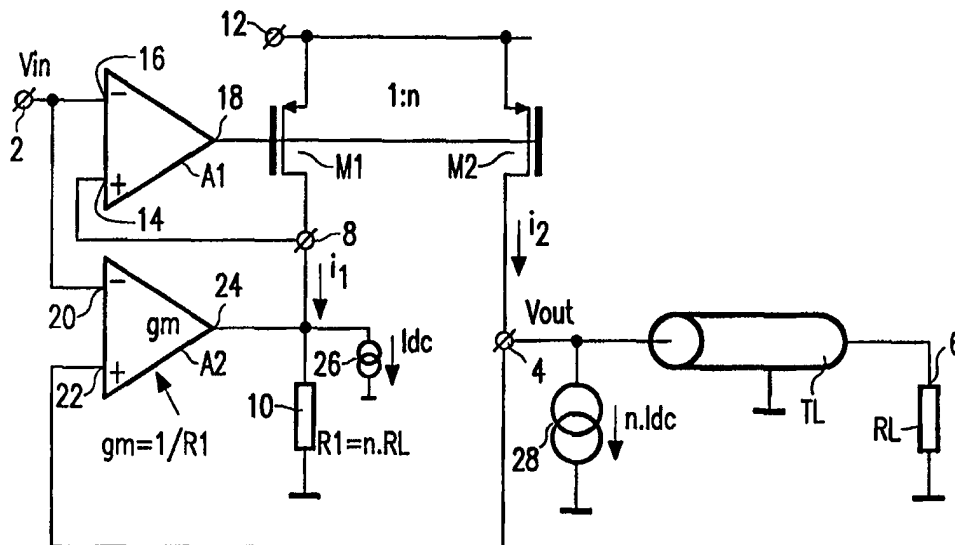




## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification <sup>6</sup> : H04L 25/02</p>	<p>A3</p>	<p>(11) International Publication Number: <b>WO 98/38773</b></p> <p>(43) International Publication Date: 3 September 1998 (03.09.98)</p>
<p>(21) International Application Number: PCT/IB98/00128</p> <p>(22) International Filing Date: 2 February 1998 (02.02.98)</p> <p>(30) Priority Data: 97200526.8 25 February 1997 (25.02.97) EP (34) Countries for which the regional or international application was filed: NL et al.</p> <p>(71) Applicant: KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).</p> <p>(71) Applicant (for SE only): PHILIPS NORDEN AB [SE/SE]; Kottbygatan 7, Kista, S-164 85 Stockholm (SE).</p> <p>(72) Inventor: NAUTA, Bram; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).</p> <p>(74) Agent: HESSELMANN, Gerardus, J., M.; Internationaal Octrooibureau B.V., P.O. Box 220, NL-5600 AE Eindhoven (NL).</p>		<p>(81) Designated States: JP, KR, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</p> <p><b>Published</b> <i>With international search report.</i></p> <p>(88) Date of publication of the international search report: 26 November 1998 (26.11.98)</p>

## (54) Title: LINE DRIVER WITH ADAPTIVE OUTPUT IMPEDANCE



## (57) Abstract

A line driver comprising a first transistor (M1), a first amplifier (A1) and a reference resistor (10) for converting an input voltage ( $V_{in}$ ) to a first current ( $i_1$ ) through the first transistor (M1). A second current  $i_2 = n \cdot i_1$  flows through a second transistor (M2) which forms a 1:n current mirror with the first transistor (M1). The current ( $i_2$ ) flows to a load (6), if so required via a transmission line (TL). The impedance of the load (6) is equal to the characteristic impedance ( $R_L$ ) of the transmission line (TL). Thus the impedance seen by the line driver is equal to  $R_L$ . A second transconductance amplifier (A2) counteracts reflected signals in the output signal ( $V_{out}$ ) caused by mismatch between the output impedance of the current mirror (M1, M2) and the impedance seen by the line driver.

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB 98/00128

## A. CLASSIFICATION OF SUBJECT MATTER

IPC6: H04L 25/02

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: H04L

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

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

EDOC, WPIL, JAPIO

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 9502931 A1 (PHILIPS ELECTRONICS N.V.), 26 January 1995 (26.01.95), page 3, line 7 - page 5, line 6  --	1-10
A	US 5585763 A (M.J. NAVABI ET AL.), 17 December 1996 (17.12.96), column 1, line 8 - line 29, figure 3B  -- -----	1-10

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Information on patent family members

27/07/98

International application No.  
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9502931 A1	26/01/95	EP 0664937 A JP 8501674 T US 5510751 A	02/08/95 20/02/96 23/04/96
US 5585763 A	17/12/96	NONE	