



US005510751A

United States Patent [19]

[11] Patent Number: **5,510,751**

Nauta

[45] Date of Patent: **Apr. 23, 1996**

[54] **LINE DRIVER WITH ADAPTIVE OUTPUT IMPEDANCE**

5,121,080 6/1992 Scott, III et al. 330/260

[75] Inventor: **Bram Nauta**, Eindhoven, Netherlands

Primary Examiner—James B. Mullins
Attorney, Agent, or Firm—Laurie E. Gathman

[73] Assignee: **U.S. Philips Corporation**, New York, N.Y.

[57] ABSTRACT

[21] Appl. No.: **261,508**

A line driver comprising: an input terminal for receiving an input signal, an output terminal for connecting a load, a first and a second transconductance-controlled transconductor having substantially equal transconductances, each transconductor having a non-inverting input, an inverting input, an output and a common control input for controlling the transconductance, the non-inverting inputs of the first and second transconductors being coupled to the input terminal, the outputs of the first and second transconductors being coupled to the output terminal, the inverting input of the first transconductor being coupled to a point of reference potential, the inverting input of the second transconductor being coupled to the output terminal, and an amplifier having a non-inverting input, an inverting input and an output coupled to, respectively, the input terminal, the output terminal and the common control input of the first and the second transconductors.

[22] Filed: **Jun. 17, 1994**

[30] Foreign Application Priority Data

Jul. 14, 1993 [EP] European Pat. Off. 93202166

[51] Int. Cl.⁶ **H03F 3/68**

[52] U.S. Cl. **330/84; 330/85; 330/260; 330/295**

[58] Field of Search **326/63, 82, 89; 330/84, 85, 260, 295**

[56] References Cited

U.S. PATENT DOCUMENTS

4,491,802 1/1985 Uchida et al. 330/85 X
5,034,698 7/1991 Moriyasu 330/84

3 Claims, 2 Drawing Sheets

