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(54) Title: HYBRID CIRCUIT

(54) Bezeichnung: GABELSCHALTUNG

(57) Abstract

The present invention concerns a hybrid circuit which serves to connect a transmitting unit (TX) and a receiving unit (RX) to a double-conductor transmission line and has a bridge connection with four bridge branches each with two resistors (R_{1t} , R_{2t} , R_{1r} , R_{2r} , R_{3r} , R_{4r} , R_{3t} , R_{4t}) which are so designed and so connect the two outputs ($txa1$, $txa2$) of the transmitting unit (TX) and the two inputs ($rxel$, $rxec2$) of the receiving unit (RX), that the components of the transmission signal which arise at the input of the receiving unit (RX) cancel each other out; the transmission line is connected under optional cut-in of a transmitter (TF) via the first resistors (R_{4t} and R_{4r}) of the third and fourth bridge branches (R_{3r} , R_{4r} , R_{3t} , R_{4t}) with the transmitting unit (TX) and via the second resistors (R_{3t} and R_{3r}) of the third and fourth bridge branches (R_{3r} , R_{4r} , R_{3t} , R_{4t}) with the receiving unit (RX). According to the invention, the resistors (R_{1t} , R_{2t} , R_{3r} , R_{4r} and R_{1r} , R_{2r} , R_{3t} , respectively) of the four bridge branches are selected so that impedance (Z_b) provided to compensate impedance (Z_l) of the transmission line takes on a value high enough that the error tolerance provided for the hybrid circuit can be adhered to, even without building in this impedance (Z_b). Preferably, the hybrid circuit is connected to the input of the receiving unit (RX) via a filter (FR) which serves to equalize the dynamic range ($dyn1$, $dyn2$) of the signals which are transmitted over cables of differing diameters.

