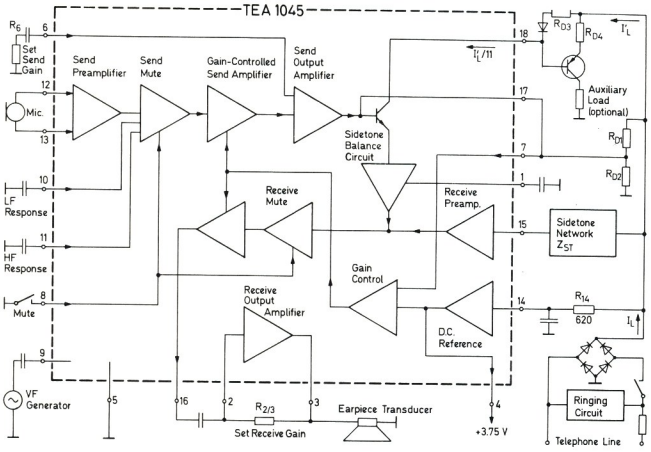
TEA1045 Telephone Subset Amplifier (18-Pin Plastic Package)

Features

- Automatic compensation of line losses by using a gain-controlled amplifier
- Very accurate (±2 dB) send, receive and VF (voice frequency) gains to achieve optimum system performance
- Low supply current obtained entirely from a small proportion of the line current
- Contains cancellation circuit to achieve required reduction in sidetone
- Balanced microphone input circuit for reduced sidetone
- Operation can be achieved if the subsets are paralleled
- Stabilised D.C. output for powering external VF oscillator
- Send, VF and receive gains can be preset externally by choice of resistors
- Both low and high frequency characteristics (usually roll off's) of the send gain can be separately adjusted by external capacitors
- Control of quiescent operating point on curve relating D.C. line current with amplifier gain
- Low send and receive noise
- Mute facility for send and receive amplifiers during dialling



TEA1045 Block Diagram and Application Circuit

Description

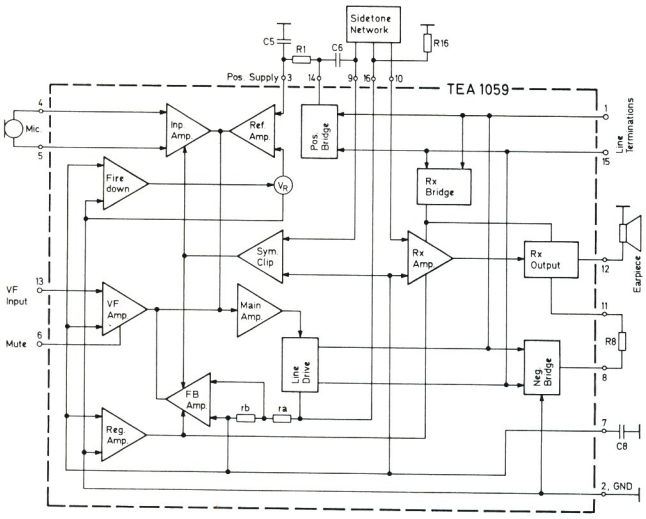
The TEA1045 is a bipolar integrated circuit specially designed for use in a telephone subset to amplify the output from the handset microphone to the telephone line and to amplify the incoming speech on the line to the earpiece transducer. The microphone and earpiece transducers can be of the same type and construction.

The overall characteristics of the TEA1045 are very well defined and controlled. Both send and receive gains within the integrated circuit have only a small overall spread of 4 dB (±26% about nominal). With line impedance and set-gain resistors closely controlled the performance of the subset is well defined in the system.

TEA1059 Telephone Hybrid Transmission Network (16-Pin Plastic Package)

Features

- Low-voltage network suitable for both loop disconnect and VF signalling
- Parallel operation with carbon transmitter subset possible
- Low external component count because of internal bridge and line drive
- Receive voltage control possible in handset with only 4-conductor handset cord
- Regulated transmit and receive operation
- Regulated VF output
- Transmit and receive muting during dialling
- Regulated supply available to power VF integrated circuit
- Sidetone network external so that the adjustment can be made for cable type use
- Soft clip is provided on transmit to extend the dynamic operating range and prevent hard overload characteristics



TEA1059 Block Diagram and Application Circuit

Description

The TEA1059 is a telephone transmission network integrated circuit that includes an on-chip low voltage drop polarity reversal bridge in addition to send and receive amplification, electronic hybrid and VF dial interface. The D.C. voltage drop is low enough to enable parallel operation with a subset having a carbon microphone even to the longest lines. It is suitable for operation with high-sensitivity electromagnetic transducers.

The interface to the telephone line is via four unusual circuit elements: the positive bridge (Pos. Bridge), the negative bridge (Neg. Bridge), the line drive (Line Drive) and the receiver bridge (Rx Bridge). The polarity of the circuit may be reversed as these four circuit elements are polarity insensitive. The rest of the telephone IC is interfaced via these circuits.