

Communications

XRT65118A

Voice Switched Speakerphone Circuit

Features

- Wide Attenuator Gain Range
- Low Voltage Operation
- Improved Switching Sensitivity
- Background Noise Monitors
- Microphone Amplifier
- Chip Disable

Applications

- Feature Phones
- Intercoms
- Voice Operated Switches
- Personal Notebook Computers

The XRT65118A Voice Switched Speakerphone Circuit includes all the active circuitry and control algorithms to implement an advanced hands free telephone system. The circuit includes a microphone amplifier with external gain set and muting, complimentary transmit and receive attenuators, quad peak detectors sensing signal levels at the inputs and outputs of both attenuators, and background noise monitors in both the transmit and receive channels. The receive background noise monitor is inhibited when dial tone is detected to prevent muting of the dial tone. Two line drive amplifiers in the transmit path are used with a coupling transformer to form an active hybrid network. A buffer in the receive path may be configured as a variety of filters to improve the signal quality from the line.

The XRT65118A features 3V to 6V operation, and may be powered directly from a telephone line or an external power supply. A chip disable pin powers down the entire device and reduces operating current under idle conditions. An AGC circuit reduces receive channel gain at low supply voltages. It is also used to reduce supply current drain in the external loudspeaker and driver, which is especially useful for line powered applications. The XTT65118A may be used as a stand alone speakerphone, connected to TIP and RING with a coupling transformer, or integrated into a handset speech network, as a building block of a feature phone.