**Abstract:** An electronic circuit, which can be used as a Low Noise Amplifier (LNA), comprises two complementary Field Effect Transistors (M1, M2, M5, M6), each having a gate, a source and a drain. The gates are connected together as a common input terminal, and the drains are connected together as a common output terminal. The electronic circuit further has a feedback circuit, e.g. in the form of two anti-parallel Field Effect Transistors (M3, M4; M7, M8), connected between the common input terminal and the common output terminal. This feedback circuit has an impedance at radio frequencies which is high-ohmic compared to impedance levels of the two transistors. This ensures a high gain at radio frequencies, and at the same time it can be implemented with only a few components. It also ensures high linearity and a very low current in the feedback circuit, and thus little or no noise is added to the circuit.