

# 900MHz DSSS RF to Digital Transceiver Chipset

- All the BOM Advantages of Direct Conversion Radio
- The Performance Advantages of a Superhet Radio
- Small, Simple to Use and Ideal for Volume Manufacture



## ML2721 Low IF Digital Cordless Transceiver

## ML2751 Power Amplifier and LNA

## Features

### ML2721

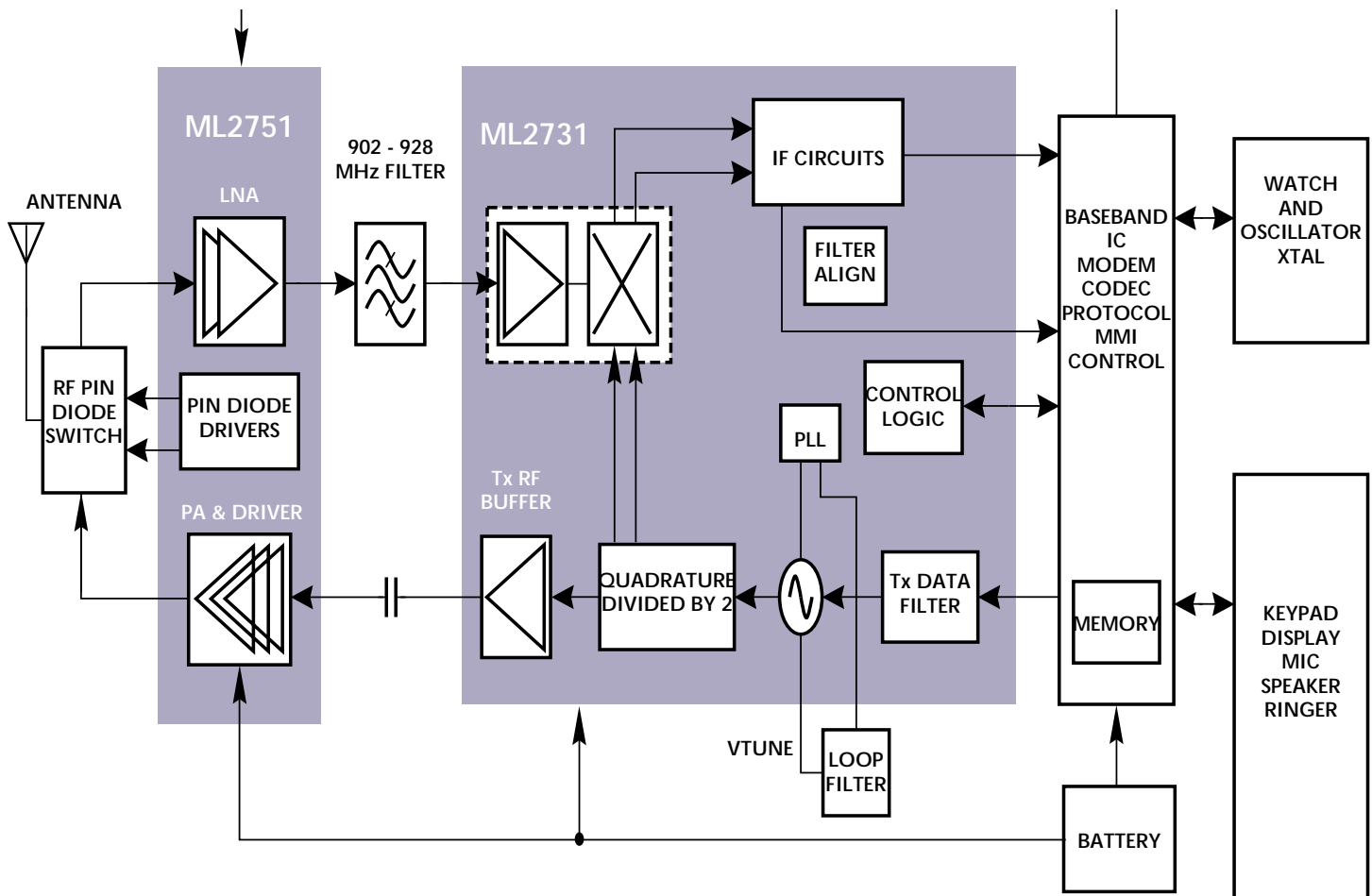
- Fully Integrated Receiver With 900mhz RF In And NRZ Out
- Fully Integrated Transmitter With Integrated Modulation Filter
- Fully Integrated, Self Aligning IF Filtering, Frequency To Voltage Converter, Transmit And Receive Data Filters
- Integrated Frequency Synthesizer With On Chip Pre Aligned VCO
- Transmitter Low Voltage Lock-Out Circuit To Avoid Out Of Band Emissions At Low Battery Voltage
- On-Chip DC Regulation For 2.7V To 5.0V Operation
- Analog RSSI Output
- Small 32 Pin TQFP Package, 0.75mm Pitch

### ML2751

- Power Amplifier Output +21dbm (125mw) Typical Max Output At 3.0V
- Power Amplifier Gain 35db (Typical Max)
- Single Supply 2.7V - 4.5V Operating Range
- Power Amplifier Efficiency 35% At 3.3V
- PA Control Pin For Power Consumption Reduction In Portable Products
- On-Chip Low Noise Amplifier For Receiver
- On-Chip PIN Diode Drivers For Tx/Rx
- Small TSSOP-20 Package

Micro Linear has developed a single IC radio, the ML2721. The very high level of integration absorbs all the circuits either difficult to design or those that require production alignment. Adding just an external RF switch makes a complete radio with a digital control interface. On receive, the input is RF, the output is demodulated data. All the LO circuits are integrated, including the VCO tank circuit which Micro Linear tunes in production. For transmit, the chip is digital data in and modulated RF out. To ensure proper functionality in products, all the DC regulation and power management functions are integrated into the ML2721. This chip can be used for 900MHz ISM band applications, as either a 1.1Mbps to 1.6Mbps FSK radio, or a 1.1Mcps direct sequence radio. To extend the radio range, the ML2751 integrates a 100mW PA and a 18dB gain LNA. The ML2751 PA/LNA can implement front-end solutions for many communications products using TDD/TDMA (half duplex radios) in the 600MHz to 1 GHz range and for transmitter powers up to 100mW at 3.0V.

## Block Diagram



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