

# CMX998

## Cartesian Feedback Loop Transmitter

A Cartesian Feedback Loop (CFBL) Transmitter improves the efficiency and linearity of transmitters for non-constant envelope modulation systems.

The CMX998 is an integrated solution for a linear based CFBL Transmitter. Acting as a direct conversion quadrature mixer from I and Q to RF output, it provides the capability to linearise the Power Amplifier (PA) via feedback from the PA's output.

### Features

- Frequency Range: 30MHz to 1GHz
- Wideband Noise: -148dBc/Hz
- C-BUS (SPI Compatible) Serial Interface
- Gain Control, Error Amplifier
- Up-Converter for Feedback Linearisation
- 360° Loop Phase Shift Control
- DC Offset Measurement Output
- Open-Loop Function, Instability Detector
- Linearisation Gains of 30dB or more achievable
- Flexible Digital Interface

### Applications

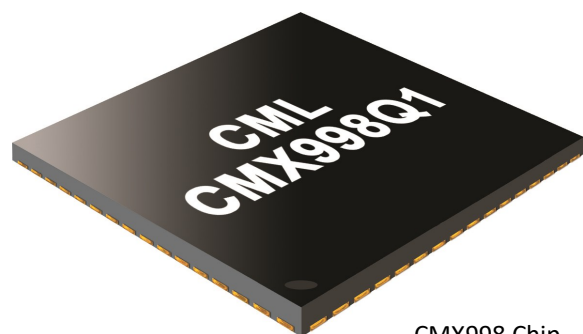
- TETRA/TETRA2 Terminals
- APCO P25 Phase 2
- Software Defined Radio (SDR)
- Aviation Systems
- Mobile Satellite Terminals
- Linear Modulation Schemes: QPSK, pi/4 DQPSK, 8PSK, QAM, OFDM, F4FM

### Supply Requirement

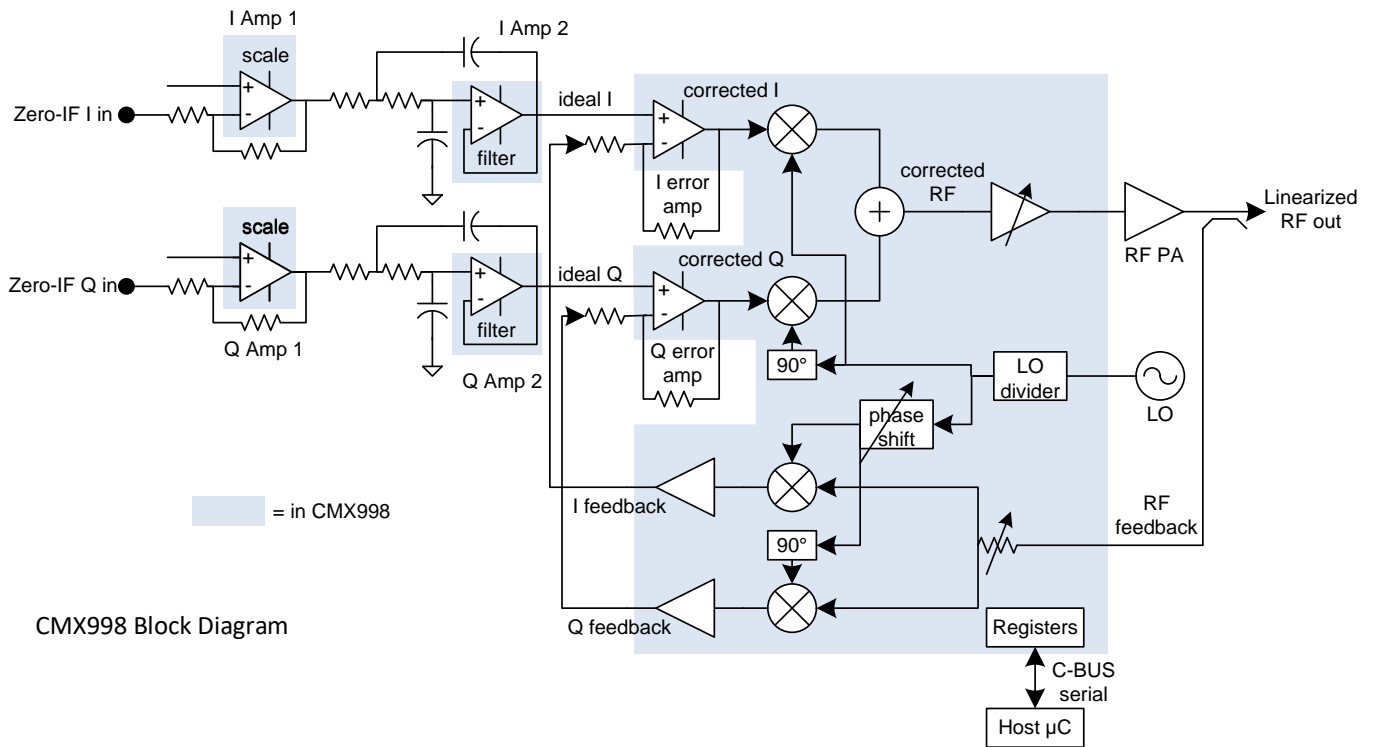
- 3.0 to 3.6 V

Included are forward and feedback paths, local oscillator circuitry including loop phase control, an instability detector and uncommitted op-amps for input signal conditioning.

The differential inputs are ideal for direct connection to standard modems and interface ICs such as CML's CMX7163 QAM Data Modem, CMX7164 Multi Mode Wireless Data Modem, CMX7364 Multi-mode High Performance Wireless Data Modem, CMX983 Analogue Front End (AFE) for Digital Radio and CMX7861 Programmable Baseband Interface IC.



CMX998 Chip



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## CML Microcircuits Benefits

### Faster time to market

Developing proven high performance and field tested ASSP ICs, CML is helping engineers to cope with increasing pressure in delivering shorter project design cycles.

### Design flexibility

CML's FirmASIC® reconfigurable technology with the use of a Function Image upload enables a single hardware platform to be used for multiple communications systems.

### High Quality

With 100% of products being tested before shipping, customers are assured of the highest reliability.

### Product Longevity

Designing with CML products, manufacturers are rewarded with longer product life cycles and a stable BOM, ensuring minimum engineering costs and maximum profit.

### Low Power

Being at the forefront of low power chip technology, manufacturers can develop smaller equipment with extended battery life.

### Superior Support

Internal and field based applications teams worldwide provide focused customer support to ease the development process.

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