Lucent Technologies
Bell Labs Innovations

LU97—AC-Link Soft Modem Chip Set

FEATURES

- Operating system support:
  - — *Windows*[1] 95, 98, 2000
  - — PC '99 compliant
  - — ACPI compliant
- High-speed data mode capabilities:
  - — ITU-T V.90 data rates 28000 bits/s—56000 bits/s[2]
  - — Ultrahigh compression throughput due to parallel access directly to the host PC
  - — ITU-T V.34 extended rates: 33600 bits/s—2400 bits/s V.32terbo, V.32bis, and fallbacks
  - — TIA/*EIA* 602 standard for AT command set
  - — V.42 error correction (LAPM and *MNP*[3])
  - — V.42bis and *MNP* Class 5 data compression
- FAX mode capabilities:
  - — ITU-T V.17, V.29, V.27ter, and V.21 Ch 2
  - — TIA/*EIA*[4] 578 Class 1 FAX
- Video-ready modem interface (VRM) V.80
- Complete DAA includes the following:
  - — AC'97/MC'97 2.1 compliant
  - — International line interface
  - — Compliant with FCC, CTR21, JATE, and other PTTs
  - — 3.3 V to 5 V power supply
  - — 2400 V isolation
  - — Integrated ring detector
  - — Integrated analog front end (AFE)
  - — 2-wire to 4-wire hybrid
  - — Low-power standby mode
  - — Low-profile SOIC packages
- Applications:
  - — Modem riser cards
  - — Mobile daughter cards

INTRODUCTION

The LU97 chip set is an integrated direct access arrangement (DAA) that provides a programmable line interface to meet international telephone line requirements. The LU97 chip set is available in two 16-pin small outline packages (AC'97 interface on CSP1037 and telephone line interface on CSP1037A/B). The chip set eliminates the need for an AFE, an isolation transformer, relays, opto-isolators, and a 2-wire to 4-wire hybrid. The LU97 chip set dramatically reduces the number of discrete components and cost required to achieve compliance with international regulatory requirements. The CSP1037 complies with AC'97/MC'97 Interface Specification Rev. 2.1.

1. *Windows* is a registered trademark of Microsoft Corporation.
2. Actual speeds over U.S. telephone lines vary and are less than 56K, due to current FCC regulations and line conditions.
3. *MNP* is a registered trademark of Microcom, Inc.
4. *EIA* is a registered trademark of Electronic Industries Association.

FUNCTIONAL DESCRIPTION

The LU97 chip set is an integrated chip set that provides a low-cost, isolated, silicon-based MC'97 compliant interface to the telephone line. The chip set saves cost and board area by eliminating the need for a modem AFE or serial codec. It also eliminates the need for an isolation transformer, relays, opto-isolators, and a 2-wire to 4-wire hybrid. The LU97 chip set complies with AC'97/MC'97 Interface Specification Rev. 2.1.

The chip set is fully programmable to meet worldwide telephone line interface requirements, including those described by CTR21, JATE, FCC, and various country-specific PTT specifications. The programmable parameters of the LU97 chip set include ac termination, dc termination, ringer impedance, and ringer threshold. The LU97 chip set has been designed to meet stringent worldwide requirements for out-of-band energy, billing-tone immunity, lightning surges, and safety requirements.

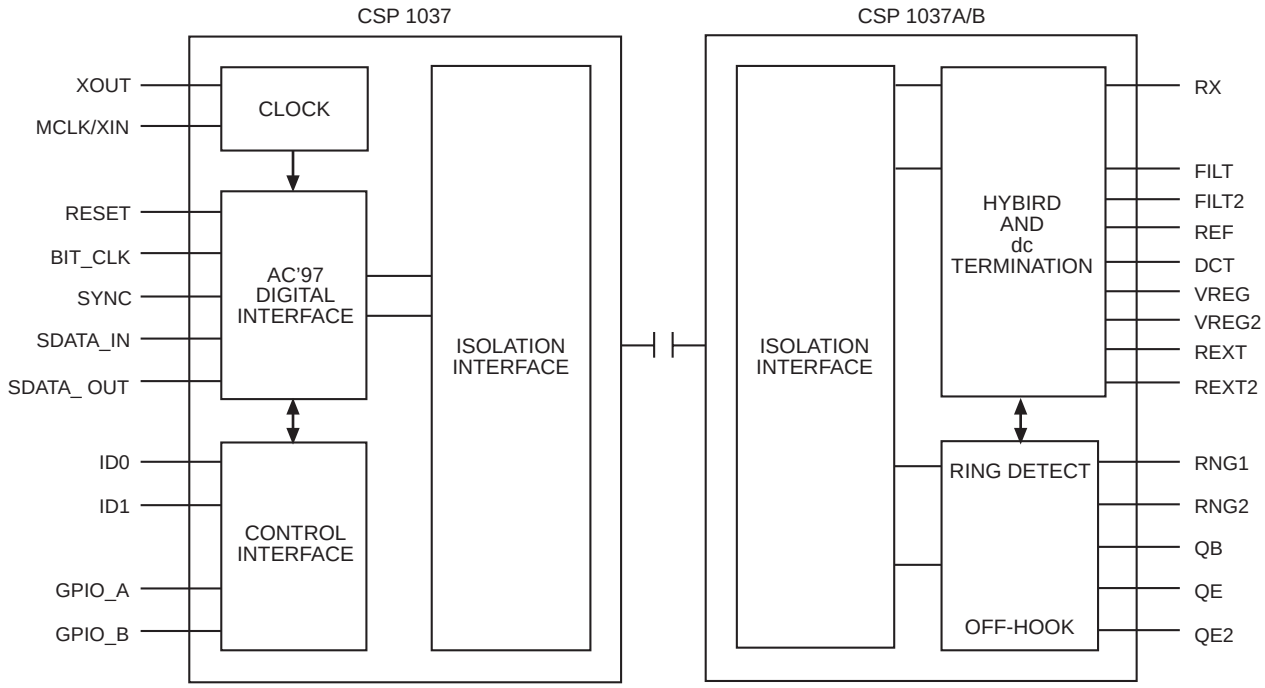

Figure 1. Functional Block Diagram

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