

A Schlumberger Company

## F2224 • F2212 2400/1200/600/300 bps **Full Duplex Modem**

Advanced Signal Processing Division

#### Advance Information, June 1986

#### Description

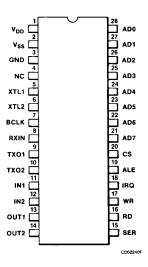
The F2224 and F2212 are single-chip full-duplex modem circuits, operating at 2400 (F2224 only), 1200, 600 and 0-300 bps. The F2224 is compatible with the CCITT V.22 bis modern specification, and both chips are compatible with V.22B, Bell 212A, Bell 103, V.21, V.23 and Bell 202. The ICs perform all signal processing functions, and feature both a parallel microprocessor interface with integral UART and an alternate four line serial control and separate data interface.

The F2212, under control of a host processor or dedicated microcontroller, provides a complete low-cost solution to data transmission at speeds up to 1200 bps and is pin for pin and functionally compatible with the F2224, which provides an upgrade path to 2400 bps operation, with minimal changes to existing firmware. Handshaking protocols are included on-chip, which will reduce control-processor firmware requirements.

An on-chip hybrid simplifies connection to the telephone network and uncommitted I/O lines are provided for DAA control and RS232 implementation if required. DTMF dialing and call progress tone detection are included.

- V.22 bis (F2224 Only), V.22B, 212A, 103, V.21, V.23 And Bell 202 Compatible
- V.23 And 202 Modes Have Selectable 75 Or 150 bps **Backward Channels**
- Performs All Signal Processing Functions
- Parallel µP Interface With Integral UART
- Alternate Serial Control And Data Interface
- Register Control Of Modem And UART Operation
- DTMF Tone Generation And Call Progress Tone **Detection For Smart Dialer Applications**
- 1300 Hz Calling Tone Generator On Chip
- On-Chip Hybrid And Programmable I/O For DAA Control And RS232 Implementation
- Very Few External Components Required
- Low Power Dissipation And A Very Low Power Standby Mode
- 28-Lead Ceramic DIP, Plastic DIP And Surface Mount **Packages**

### Connection Diagram 28-Lead DIP (Top View)



# Order Information

Device Code	Package Code	Package Description
F2224DC	FM	Ceramic DIP
F2224PC	*	Molded DIP
F2224QC	*	Molded Surface Mount
F2212DC	FM	Ceramic DIP
F2212PC	*	Molded DIP
F2212QC	*	Molded Surface Mount