

TMS320x2 Win-Data/Fax/Voice PCI Modem Chipset

Product Brief

Introduction

Texas Instrument's TMS320x2 modem chipsets now offer PCI system interface support for Windows™-based modem development. With modem data, fax, and voice features, the new x2™ chipset utilizes TI's extensive integration capabilities and leading DSP Solutions to deliver unprecedented flexibility and performance to give manufacturers a competitive advantage.

Features

- x2 56-Kbps PCM technology, upgradeable to ITU-T V.PCM
- Data-mode capabilities:
 - Support of V.34+, V.34, V.32bis, V.23, V.21, V.22bis, V.32, V.FC, Bell 103/V.21, and Bell 212A/V.22 compatibility standards
 - V.42bis and MNP™ 5 data compression protocol
 - V.42 LAPM and MNP 2–4 error correction protocol
 - Automatic speed sensing of data from host
 - Automatic line speed selection to select the best speed based on the quality of the signal
- Fax-mode capabilities:
 - ITU-T V.17, V.29, V.27ter, and V.21 Channel 2
 - Class 1 and Class 2.0 Fax
 - Fax_send and receive capability of 14.4 Kbps
- Telephony features:
 - AT#V command set
 - Digital Telephone Answering Device (DTAD)
 - Personal voicemail with multiple mailboxes
 - Remote voice message and fax retrieval
 - Full-duplex speakerphone with acoustic echo cancellation

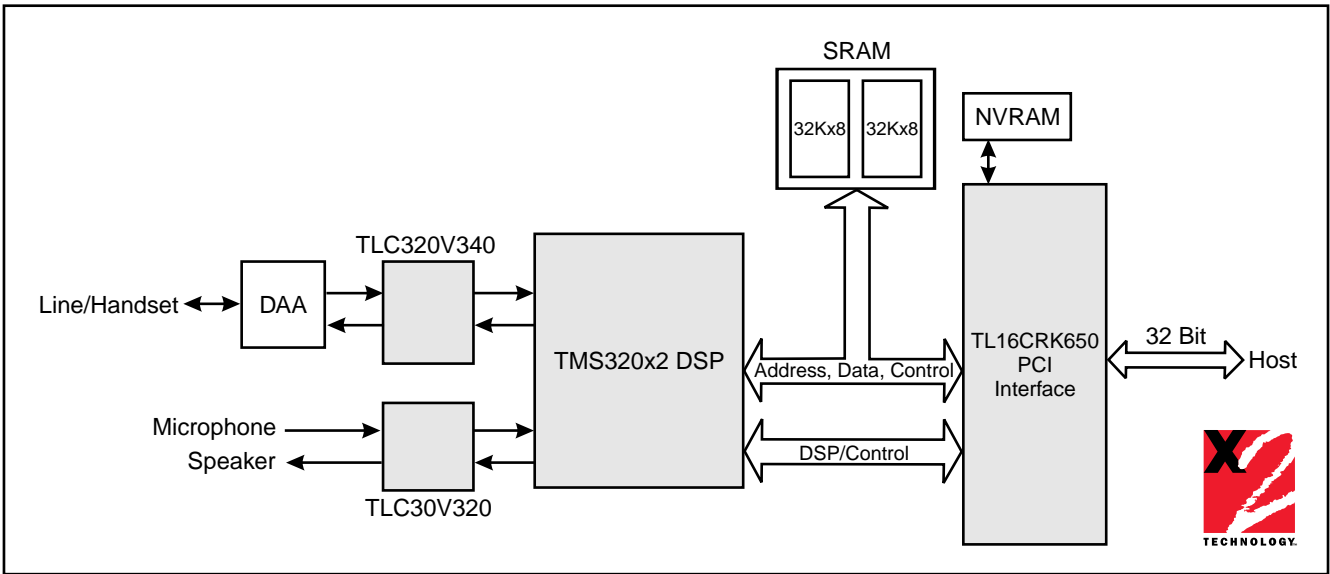
- Ring detect
- Data/fax/voice call discrimination
- Distinctive ring
- Caller ID
- Call monitoring
- Auto-dial, auto-answer
- Optional features:
 - DSVD (digital simultaneous voice data) to allow users to talk and receive data at the same time over one phone line.
 - Handset management
 - V.80 standard protocol
- DTMF (dual multi-tone frequencies) detection/decoder
- Tone or pulse dialing
- Adaptive dialing allows modem to switch to pulse dialing if tone is not supported
- Hardware and software flow control to prevent data loss
- Built-in diagnostics
- PCI 2.0 compliant
- Plug and play compliant

Reference Design

Currently, TI offers a PCI data/fax/voice modem chipset designed to meet a range of market requirements. TI's Windows-based reference design allows manufacturers to build cost-effective modem sub-systems that work in conjunction with the host CPU. These designs allow for a hardware cost reduction by utilizing other PC processing elements. As part of the TI Winmodem solutions, it's also possible to offer cost-reducing options to the full data/fax/voice implementation by providing the voice capability through a sound card connected to the TAPI connector and by eliminating handset management.

The following voice features are included:

- Digital Telephone Answering Device (DTAD)—Using two compression schemes, ADPCM and GSM, the modem functions as a telephone answering machine, transmitting an audio outgoing message and receiving, digitizing, compressing and storing an incoming audio message.
- Full-duplex speakerphone with acoustic echo cancellation (requires external powered speaker and microphone)
- DSVD allows users to talk and receive data at the same time over one phone line.
- V.80 standard compatibility allows bi-directional data transfer through the PC. For videoconferencing, allows compatibility with H.324 subsystems.



PCI Win-data/fax/voice block diagram

Ordering Information

Functionality	Chipset Part Number	IC Components	Availability
x2 Data/Fax/Voice (with PCI interface)	TMS320x2RQWPTA	<ul style="list-style-type: none">• TMS320x2PJ DSP• Codecs TLC320V343CFNR TLC320V320CFNR• ASIC TL16CRK650PCM	Limited samples: Now Samples: 1Q98 Production: 2Q98

For More Information

x2 chipset solutions from Texas Instruments are the clear choice for designing next-generation, high-performance modems. TI DSP Solutions allow manufacturers to build products that are fast, software upgradeable, and have features consumers demand.

x2 chipsets also create the foundation for an integration roadmap which allows designers to reduce their total cost of ownership.

If you would like more information on how TI's x2 chipsets can give you the advantage you are looking for, please contact your local TI sales office. Or, visit us on the web at <http://www.ti.com/sc/x2>.