CONEXANT™

CXHSF-USB Modem Device
CX06836

V.90/V.92 Chipset for USB

Conexant's broadband communications portfolio includes a comprehensive suite of semiconductor solutions that enable the digital home and information network. Conexant's CX06836 Host-Software Processed Modem Device is a versatile product designed to operate using the USB Interface Device (UID) and offers an inexpensive easy to use an external modem. Compact enough to fit inside a dongle connector, the CX06836 modem device operates with PSTN telephone lines worldwide, and supports V.90/V.92 analog receive data up to 56 kbps with V.44 compression, V.17 analog fax to 14.4 kbps and remote Telephone Answering Machine (TAM) operation.

The V.92 dial-up modem specifications include features that provide a better user experience when connecting to the Internet: Quick Connect, Modem-on-hold™, and PCM Upstream. Quick Connect shortens the modem handshake sequence to make a connection 30% to 40% faster then before. Modem-on-hold allows a user to receive an incoming call while staying connected to the Internet. PCM Upstream boosts the data rates to reduce upload time for large files and email attachments.

Consisting of a Conexant CX06836-11 UID packaged in a 100-pin Thin Quad Flat Pack (TQFP), the CX06836 modem device operates with a +5V power from the USB bus — eliminating the need for an external power supply. A downloadable architecture allows updating of executable code. Modem data pump and controller functions are handled by the Pentium MMX-compatible CPU rather than dedicated hardware, using supplied host-signal processing modem software.

The supported V.44 mode is an efficient data compression that significantly increases throughput, reducing the download time for the types of files associated with Internet use. Thus, Web pages, graphics, images, audio and document files can achieve a 6-to-1 compression ratio for an overall effective data throughput rate of up to 300 kbps on a 56K connection. Non-error-correcting mode is also supported. Conexant supplies USB modem drivers for Windows 98 SE/ME/2000/XP, which includes support for power management features that allow the PC to go into suspend mode, and then resume when there is a wake-up event.

In Telephone Answering Machine (TAM) mode, 4-bit, 8-bit or 16-bit per sample coding schemes at 8 KHz sample rates provide flexible format compatibility and allow for efficient storage of voice/audio. Voice annotation, recording from and playback to the telephone line are supported applications.

Fax Group 3 send and receive are supported up to 14.4 kbps with T.30 protocol. The complete reference design kit is available in electronic form to minimize application design time and costs.
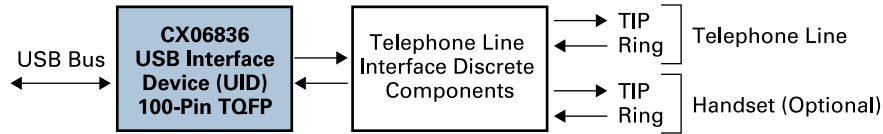

CX06836 Features

- Supports all V.92 features (Quick Connect, Modem-on-hold™, PCM Upstream)

- V.44 compression protocol to increase data throughput

- Ease-of-use via USB Plug and Play

- Compact enough for a dongle-type form-factor

- Supports Windows 98 SE/ME/2000/XP

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CX06836 Modem Simplified Interface Diagram

CX06836 Features

- **Receive rates up to 56 kbps, send rates up to 48 kbps in V.92 mode**
  - ITU-T V.92, V.90, K56flex, V.34, V.32bis, V.32, V.22bis, V.22, V.23 and V.21 Bell 212A and Bell 103
  - Quick Connect
  - Modem-on-hold
  - PCM Upstream
  - V.250 and V.251 commands

- **Data Compression (DC) and Error Correction (EC)**
  - V.44 DC for optimal downloading from Internet
  - V.42bis and MNP 5 DC
  - V.42 LAPM and MNP 2 – 4 EC

- **Fax modem with send and receive rates up to 14.4 kbps**
  - V.17, V.29, V.27 ter and V.21 Ch. 2
  - EIA/TIA Class 1 and T.31 Class 1.0 commands
  - Telephony/TAM
  - V.253 commands
  - 8-bit µ-Law/A-Law coding (G.711) and 8-bit/16-bit linear coding
  - 8 KHz sample rate

- CX06836 hardware
  - Full-speed (12 MHz) USB interface
    - Suspend/resume
    - Vendor-specific descriptions
    - Bus-powered USB device
    - LED driver outputs
  - Internal modem codec
  - Analog receive/transmit data and discrete control/status signal interface to DAA
  - +5V to +3.3V regulators on-chip
  - Packaged in 100-pin TQFP

- Single configuration profile stored in host

- Data/Fax call discrimination

- Host software signal processing

- System compatibility
  - Windows 98 SE/ME/2000/XP

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