

## Discrete DAA and Speakerphone Support

### Product Overview

Conexant's ImagingSmart™ portfolio includes a comprehensive suite of semiconductor solutions that enable the connected home office and information network. Dial-up modems continue to provide robust communication for the embedded market.



The CX06833 modem is ideal for country-specific embedded applications such as POS terminals, STBs, metering, building automation, gaming, ruggedized notebooks, remote site management, and any other application that requires a robust dial-up modem solution.

The CX06833 integrates the microcontroller, DSP, memory, and support for a discrete DAA. The CX06833 supports either serial or parallel host interface operation, and is available in a 144-pin TQFP package.

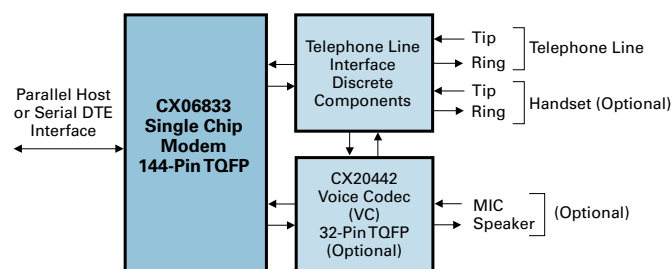
The CX06833 modem features data/fax/TAM and optional FDSP with up to 56kbps analog data modem operation and 14.4kbps fax modem operation. The V.92 modem includes quick connect, modem-on-hold, and PCM upstream. The CX06833 is also available in V.34 or V.32bis options.

### Key Features

- Data modem modulations
  - ITU-T V.92 and V.90 (SM56D models)
  - ITU-T V.34 (SM56D/SM336D)
  - ITU-T V.32bis, V.32, V.22bis, V.22 fast connect, V.23, and V.21
  - FastPOS (V.29)
  - Bell 212A and Bell 103
  - V.250 and V.251 commands
  - V.80 synchronous access mode
  - Quick Connect, modem-on-hold, and PCM upstream functions (SM56D models)

- Data compression and error correction
  - V.44 data compression
  - V.42bis and MNP 5 data compression
  - V.42 LAPM and MNP 2-4 error correction
- Fax modem send and receive rates up to 14.4kbps
  - V.17, V.29, V.27ter, and V.21 channel 2
  - EIA/TIA 578 class 1 and T.31 class 1.0
- TAM and optional FDSP
- V.80 synchronous access mode supports host-controlled communication protocols with H.324 interface support
- Support for many country-specific DAA configurations
  - Caller ID detection for many countries
  - Call progress, blacklisting
  - Internal ROM includes default values for 29 countries
  - Additional modified country profiles can be stored in internal SRAM or optional serial EEPROM
- Interfaces to optional external ROM/flash ROM, RAM, and/or serial EEPROM—Supports custom firmware
- Quick time-to-market
- Low-cost solution

### System Block Diagram



## Additional Features

- Data/fax/voice call discrimination
- Caller ID detect
  - On-hook caller ID detection
  - Off-hook call waiting caller ID detection during data mode in V.92, V.90, V.34, V.32bis, and V.32
- Distinctive ring detect
- Modem customization available through a patch code that can be stored in optional serial EEPROM or internal SRAM
- Telephony/TAM
  - V.253 commands
  - 2-bit and 4-bit Conexant ADPCM
  - 8-bit linear PCM
  - 4-bit IMA coding
  - 8kHz sample rate
  - Concurrent DTMF, ring, and caller ID detection
- FDSP mode using optional CX20442 voice CODEC (S models)
  - Microphone and speaker interface
  - Telephone handset or headset interface
  - Acoustic and line echo cancellation
  - Microphone gain and muting
  - Speaker volume control and muting
- Built-in host/DTE interface
  - Parallel 16550A UART-compatible interface up to 230.4kbps
  - Serial ITU-T V.24 (EIA/TIA-232-E) logical interface up to 115.2kbps
- Direct mode (serial DTE interface)
- Flow control and speed buffering
- Automatic format/speed sensing
- Serial async/sync data and parallel async data
- Thin packages support low profile designs (1.6mm maximum height)
  - CX06833: 144-pin TQFP
  - CX20442 VC: 32-pin TQFP
- 3.3V operation with 5V tolerant digital inputs
- Typical power use
  - CX06833:
    - 161mW (normal mode)
    - 52.8mW (sleep mode)
  - CX20442 VC: 5mW (Normal mode)

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