

MS143450SK

Product Preview

External Active Modem Chip Set and Software

The Motorola MS143450SK is a complete analog modem chip set and software for retail and embedded modem applications. The MS143450SK DSP-based modem controller and data pump are upgradable via software download. This ensures that Motorola upgrades or improvements of modem software can rapidly be incorporated into any end product. The MS143450SK's modem and voice functions utilize a Motorola DSP56300 general purpose DSP core. The DSP56300 family is a 1X (one instruction per clock cycle) full 24-bit DSP architecture and is well suited for modem and audio DSP applications.

Included with the MS143450SK is Motorola's complete suite of modem software. With the Motorola software, developers can rapidly incorporate an upgradable high-performance communications solution into their system.

Two development kits are available for the MS143450SK External Active Modem Chip Set and Software; the MC143450EVK Evaluation Kit and the MC143450RDK Reference Design Kit. The MC143450EVK is targeted at modem developers wanting to adapt existing DAAs to the Motorola modem chip set. The MC143450RDK is a turn-key design for the Motorola external active modem.

The MC143450RDK is designed with minimum cost and rapid implementation in mind. It allows the developer to evaluate modem and voice feature performance and to perform a detailed system cost analysis. An evaluation software license is included along with schematics, complete Bill of Materials (BOM), layout recommendations, and Gerber files for PCB fabrication. The MC143450RDK is also designed to pass all electrical and safety certifications required by national certification bodies worldwide. This includes regulations such as FCC Part 68 and FCC Part 15 in the United States.

The MC143450EVK mezzanine card architecture allows developers to design their own DAA circuitry or add additional memory as needed. The MC143450EVK allows developers to perform the same performance analysis as in the MC143450RDK.

Integrated Circuits Included

- MC143416 Dual 16-Bit Linear Codec-Filter*
- DSP56303 24-Bit Digital Signal Processor

Software Included

- Active Modem Controller and Data Pump Software

* Codec = COder/DECoder

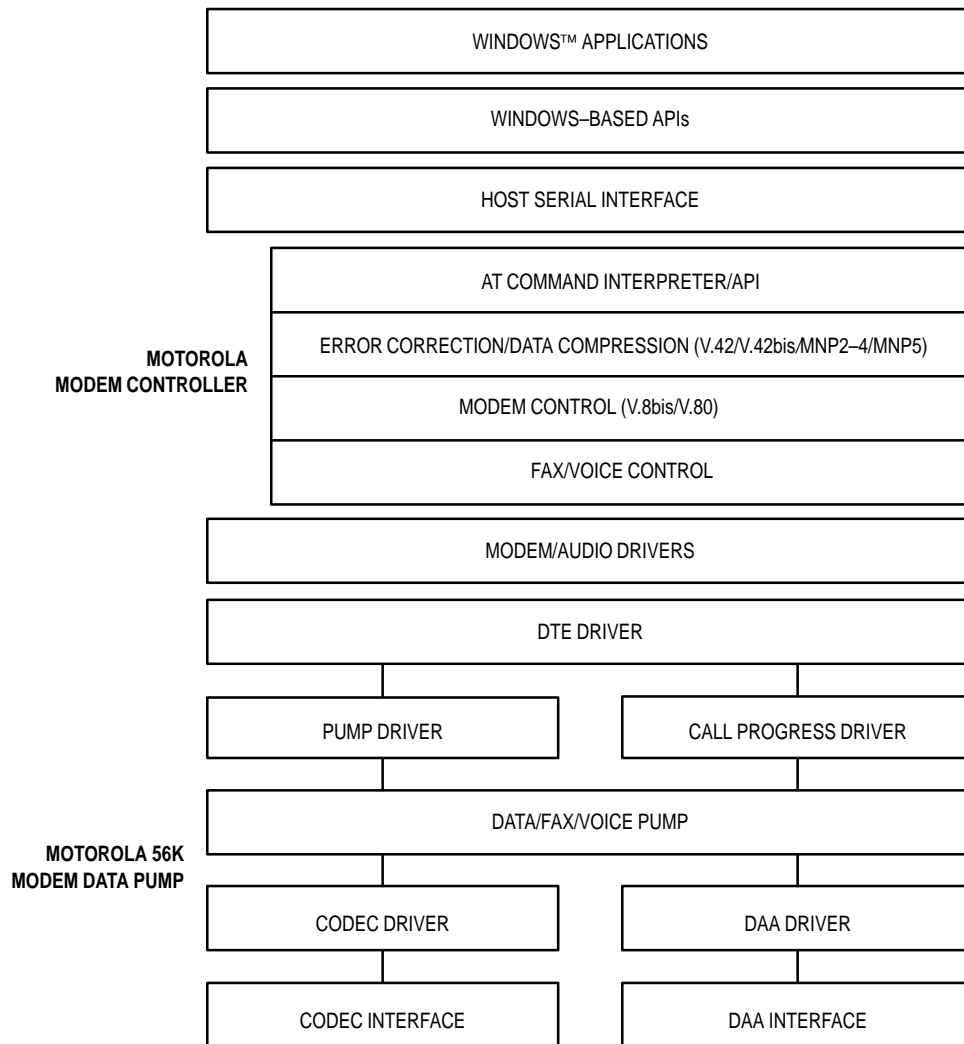
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SOFTWARE BLOCK DIAGRAM



Features

- High Performance 24-Bit DSP
- High Quality Dual Integrated Codec
- ITU-T V.80 (Video Ready), Enhanced Caller ID, Plug and Play Support, and Distinctive Ring
- Data/Fax/Voice Features per Table Below

Modem Type	Modulation/Function	Control Code	AT Command Set
Data Modem	K56flex™ Compatible Software Upgradable to ITU-T V.PCM ITU-T V.34 1996 — 33.6 kbps to 2.4 kbps ITU-T V.32bis — 14.4 kbps to 4.8 kbps ITU-T V.32 — 9.6 kbps to 4.8 kbps ITU-T V.22bis — 2.4 kbps ITU-T V.23 — 1.2 kbps ITU-T V.22 — 1.2 kbps ITU-T V.21 — 300 bps Bell 212A — 1.2 kbps Bell 103 — 300 bps Automatic Mode Selection Automatic Rate Adaption Digital Near-End/Far-End Echo Cancellation ITU-T V.8 Signalling ITU-T V.8bis Signalling ITU-T V.54 Test Loopback Support	ITU-T V.42/MNP®2–4 Error Correction ITU-T V.42bis/MNP5 Data Compression Autobaud DTE Rate 230.4 kbps Maximum Internationalized Modem Control Software	Hayes™ AT Commands
Fax Modem	ITU-T V.17 — 14.4 kbps to 9.6 kbps ITU-T V.29 — 9.6 kbps to 4.8 kbps ITU-T V.27ter — 4.8 kbps and 2.4 kbps ITU-T V.21 Channel 2 — 300 bps	TIA/EIA 578 Class 1	AT+ Commands per TIA/EIA 578 Class 1
Voice Modem	Full-Duplex Speakerphone with Automatic Gain Control and Room Monitor Answering Machine	Full-Duplex Speakerphone Controller Telephone Answering Machine Controller	AT# Voice Support


Documentation

More detailed documentation describing components and software is available from your local Motorola distributor or semiconductor sales office, or through a Motorola Literature Distribution Center.

Document Title	Order Number
MC143450EVK External Active Modem Evaluation Kit Manual	MC143450EVK/D*
MC143450EVK External Active Modem Evaluation Kit Product Preview	MC143450EVKPP/D
MC143450RDK External Active Modem Reference Design Kit Product Preview	MC143450RDKPP/D
DSP56300 24-Bit Digital Signal Processor Family Manual	DSP56300FM/AD
DSP56303 24-Bit Digital Signal Processor User's Manual	DSP56303UM/AD
DSP56303 24-Bit Digital Signal Processor Technical Data	DSP56303/D
MC143416 Dual 16-Bit Linear Codec-Filter	MC143416/D

*Available December 1997

Note: For the most current information regarding this product, contact Motorola on the World Wide Web at <http://www.motorola.com/modem-chipsets>

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