



SM56 AC-L SOFTWARE MODEM

Overview

The SM56 AC-L (AC Link) Software Modem is a Host Signal Processing (HSP) based modem with both controller and datapump functions executing on the PC's processor. The software driver works with core logic chipset designs with integrated AC-Link 2.1 and companion AC '97 modem codecs. Motorola developed the SM56 AC-L to deliver low cost modem connectivity for desktop and notebook PCs. PC OEMs benefit from the low cost design with reduced hardware. End users benefit from quick, easy and affordable software upgrades helping them keep current with new communications technology.



Low
Cost
Modem
Connectivity
for PCs.

Motorola's SM56 AC-L Software Modem is compatible with a wide variety of AMC'97/MC'97 compliant codecs. Motorola's flexible software business model provides the system designer with the freedom of choice when selecting a silicon provider.

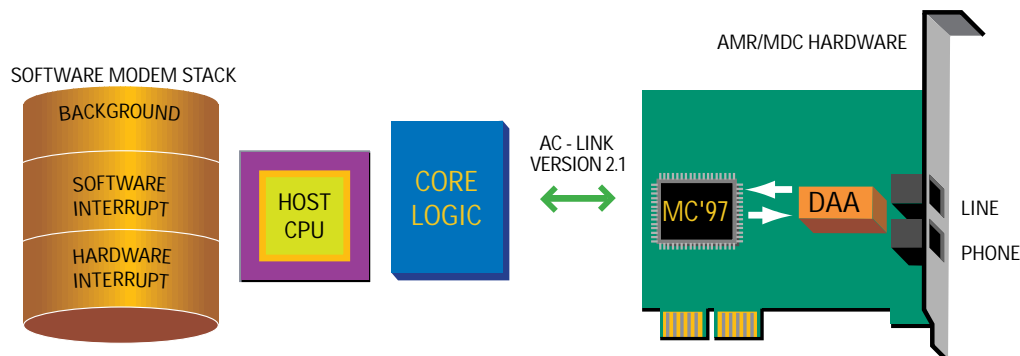
The SM56 AC-L Software Modem is ideal for both desktop and notebook PCs. Low cost Audio/Modem Riser (AMR) and Mobile Daughter Card (MDC) designs make the SM56 AC-L particularly attractive to the Basic Desktop and Notebook PC market segments. The SM56 AC-L comes feature-packed with ITU-T V.90 PCM mode and auto-fallback to K56flex and V.34 for backward compatibility. The SM56 AC-L includes V.90 to deliver high speed Internet downloads combined with standards-based network interoperability. ACPI power management is provided with support for waking the PC from a

D3 Cold state. Extensive diagnostic support with detailed phone line quality statistics reduces the number of tech support calls as well as the length of each call. Software upgrades are made simple with a user friendly Upgrader Utility. Both Windows 95/98 and NT 4.0/2000 drivers are provided for Microsoft Logo compliance.

The Motorola SM56 AC-L Software Modem also supports video conferencing with a V.80 interface for interoperability with H.324 compliant applications. Third party video phone applications are combined on the host processor for an extremely cost-effective total multimedia communications solution.

Cost-effective Integrated Architecture

The SM56 AC-L Software Modem delivers on Motorola's low cost software-driven communications promise. The AMR Card or MDC simply consist of a modem codec and data access arrangement (DAA). This simplified hardware component communicates to the motherboard core logic using the newly defined AC-Link version 2.1.



This integrated design yields big benefits.

- One of the lowest cost modem solutions on the market
- Low power consumption
- Less real estate (PCB area can be as low as 27mm by 45mm)
- Simplified country certifications
- Extensive software upgrades

Features and Benefits

AC link Version 2.1 compliant

- Works with Core Logic chipsets and AMC '97/MC '97 compliant codecs

AMR/MDC hardware component

- Reduced board size
- Low power consumption
- Simplified country certifications

Host Signal Processing for both controller and datapump

- Low cost design
- Low power consumption
- Less real estate

Robust hardware component supports software-only upgrades

- Users stay current with the latest communications technology

ITU-T V.90 Data Mode with auto-fall back to K56flex™ and V.34

- High-speed 56Kbps* data transfer with maximum degree of interoperability

Designed for Windows® 95/98 and Windows® NT 4.0/2000

- Microsoft PC 98/99 Logo compliant

ACPI Power Management

- Reduced power consumption
- Wake PC from D3 Cold state

Extensive Diagnostics

- Reduced support costs

Video Phone Ready

- Interface to H.324 compliant applications

Enhanced Caller ID

- Early warning and call logging (US and Canadian)

Group III, Class 1 Fax

- Fax transfers up to 14.4Kbps

Answering Machine

- Use the PC as a telephone attendant
- Allows for remote message retrieval

Specifications

Operating System Support

Windows® 95/98
Windows® NT 4.0/2000

Data Modem

V.90 & K56flex (up to 56Kbps receive)
V.34 (33,600 bps - 2,400 bps)
V.32bis (14,400 bps - 4,800 bps)
V.32 (9,600 bps - 4,800 bps)
V.22bis (2,400 bps - 1,200 bps)
V.22 (1,200 bps)
V.23 (75/1,200-600 bps)
V.21 (300 bps)
Bell 212A (1,200 bps)
Bell 103 (300 bps)

Error Correction

V.42, LAP-M & MNP 2-4

Data Compression

V.42bis & MNP 5

Fax Modem

Group III, Class 1
Class 1 fax error correction mode
V.17 (14,400/12,000 bps)
V.29 (9,600/7,200 bps)
V.27ter (4,800/2,400 bps)
V.21 (300 bps)

Telephone Answering Machine (TAM) (Optional)

8kHz PCM and IMA ADPCM
Concurrent DTMF detection
Voice/Silence detection

Video Phone Ready Modem

V.80 sync access mode interface
Transparent & framed sub-modes
Voice call first Supports Intel Video Phone with ProShare® technology

Adaptive Connection Support

V.8 automode negotiation
V.8 PRIME & V.8bis
Adaptive Rate Renegotiation
Automatically adjusts speeds up and down to accommodate changing line conditions

Power Management

ACPI (D0-D3 states)
Wake PC from D3 Cold

Extensive Diagnostics Support

AT&V, AT#UD- Call setup and phone line quality statistics
Realtime modem status with connect rate and retrain indication
Last disconnect reason
Local Analog Loopback
(LAL)-Hardware board check

Other Telephony Features

Tone Detections:
Dial tone, second dial tone
Ring back, Busy
Data/fax answering tones
DTMF

DOS Box Comm. Applications Support

Enhanced Caller ID (Available with TAM option in U.S. and Canada only)
Supports name and number

Distinctive Ring (Available with TAM option)
Distinguish among data, fax, voice

Extra RJ11 jack

Supports external analog devices

US/Canadian Regulatory Approvals
Broad International Approvals

Windows Modem Utility

Familiar Windows tabular interface
Easy to use on-line users guide
Real-time modem status
Flexible International Country configuration
Essential product support information

Minimum System Requirements

233MHz Pentium® II Processor with 256K L2 cache
266MHz Celeron™ Processor
AC-Link V.2.1 Compatible Core Logic chipsets
Windows® 95/98 with 16 Mbytes RAM
Windows® NT 4.0/2000 with 32 Mbytes RAM
8 Mbytes free hard disk space
One AMR/MDC slot

Reference Designs Available

Motorola's SM56 AC-L Software modem supports a wide variety of AC '97 Modem Codecs. AMR and MDC Reference designs are available for US, International, modem only and audio/modem combo configurations. Purchase bundled SM56 AC-L software and codec/DAA modules from Motorola and use the reference design kits to complete the manufacture of the hardware component.

Service and Ordering

For information on pricing, availability, service and ordering, please contact us at:
508-261-4323, 8 a.m. to 5 p.m. Eastern Time (U.S.).
886-2-2326-6341 (Asia). Also visit our web site at:
www.mot.com/softmodem

*The SM56 modem is capable of connections at 56Kbps, but due to various telephone line impairments, speeds in actual use may vary.

