

A unique, powerful—and yet low-cost—communications solution for dial-up data and fax devices.



EM56 UbiSurf™

Software Data and Fax Modems for embedded devices

“The EM56 UbiSurf™ softmodem technology is the key to powerful, yet cost-effective communication solutions for all set-top box.”

Also since the EM56 UbiSurf™ software modem is an embedded and cross-platform solution it can be easily used for any device requiring dial-up connectivity including Multi-Function Printers (MFPs), Fax Machines, Point of Sales (POS) Terminals, etc.

Need to cut costs?

With the Motorola software modem technology, you can build set-top boxes with the most robust communications technology available while reducing production costs at the same time. Using a software configurable Data Access Arrangement (DAA) you can provide worldwide coverage with a single hardware configuration. This simplifies product qualification/design-in and forecasting.

What is a Softmodem?

This technology uses software to eliminate the need for a dedicated dial-up modem processor, which results in lower cost with a smaller footprint. In fact, the CPU consumption for 56 kbps is less than 60 MIPS and only 11 MIPS for low speed 2400 baud. This solution has already passed rigorous qualification testing. In the most important test of all, name-brand PC manufacturers have selected the Motorola softmodem to install in millions of today's PCs. This proven technology is now ideal for installation into set-top boxes.

How can the Motorola software modem help me?

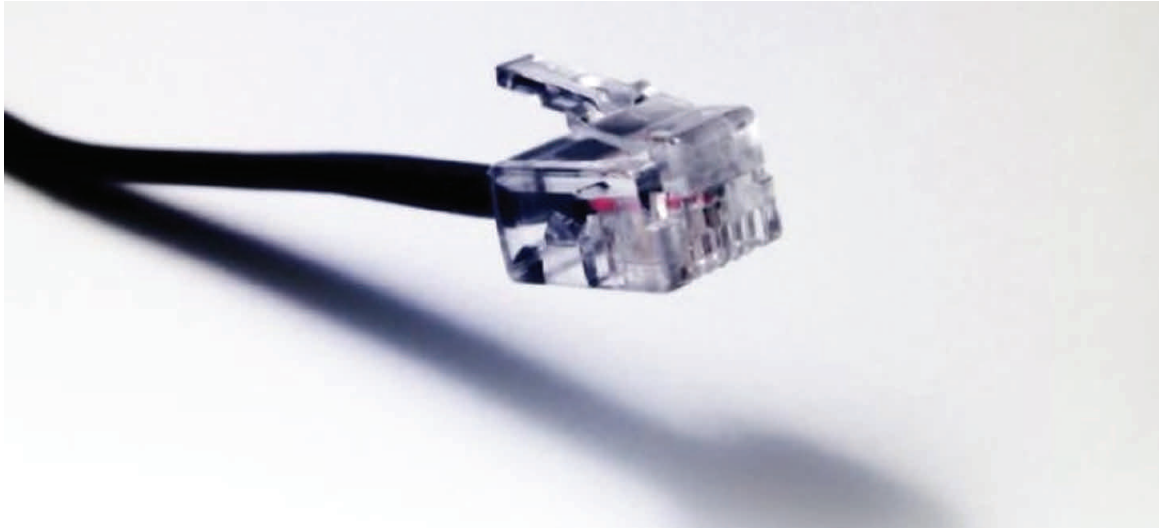
The EM56 UbiSurf softmodem is designed to meet the specific needs of the set-top box OEM. UbiSurf software gives manufacturers greater flexibility in platform design while offering significant cost savings, because it greatly reduces the amount of modem hardware.

In a nutshell, the EM56 is:

- Lower-cost
- Smaller
- Processor efficient (< 60 MIPS)
- Easily software upgradeable

What about the competition?

The Motorola EM56 UbiSurf softmodem gives you a unique industry advantage: it's a software-designed system available from Motorola, a world leader in communications with 20 years of proven embedded software expertise across multiple CPU and OS architectures.



Software Modem Specifications

Data Modem

- V.92/V.90 (up to 56 Kbps receive)
- V.34 (up to 33,600 bps)
- V.32bis (up to 14,400 bps)
- V.32 (up to 9,600 bps)
- V.22bis (up to 2,400 bps)
- V.22 (1,200 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.44
- V.42bis & MNP 5

Fax Modem

- T.32 Fax Service Class 2 and 2.1
- T.31 Fax Service Class 1 and 1.0
- T.30 Group 3 Timing and Control Procedure
- T.30 Error Correction Mode
- V.34 Fax (up to 33,600 bps)
- V.17 (up to 14,400 bps)
- V.29 (up to 9,600 bps)
- V.27ter (up to 4,800 bps)
- V.21 (300 bps)

Enhanced Caller ID¹

- Supports name and number
- Type I & II with snoop mode

Adaptive Connection Support

- V.8 auto-mode negotiation
- V.25 automatic procedures
- Auto-negotiates appropriate modulation mode
- Performs rate renegotiation to accommodate changing line conditions

Tone and Line Detectors

- Dial tone, second dial tone
- Ring back, busy
- DTMF
- Line in use detection
- Parallel pick up detection

Performance

- Less than 60 MIPS CPU consumption
- Optimized for small memory footprint

V.250 AT Command Support

Broad Country Support

Reference Designs Available

NEED MORE INFORMATION?

Contact your Motorola representative or e-mail softmodem@motorola.com or go to www.motorola.com/pcsolutions

THE MOTOROLA SOFTWARE ADVANTAGE

Motorola's software development and testing procedures are governed by the Software Engineering Institute's Capability Maturity Model Integration (CMMI) processes. These well-known and highly recognized best-practices ensure the highest level of software quality and flexibility for our customers. Indeed, the majority of our software development teams are ranked at SEI Level 5, the highest possible level. Moreover, our leading-edge software products and services leverage Motorola's vision of bringing the Internet, wireless, broadband and embedded solutions capabilities to the person, home and work team.

¹ Requires additional service through local phone company. Check with local phone company for availability.



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