SocketModem®

Embedded Analog Modem

Universal Socket Benefits

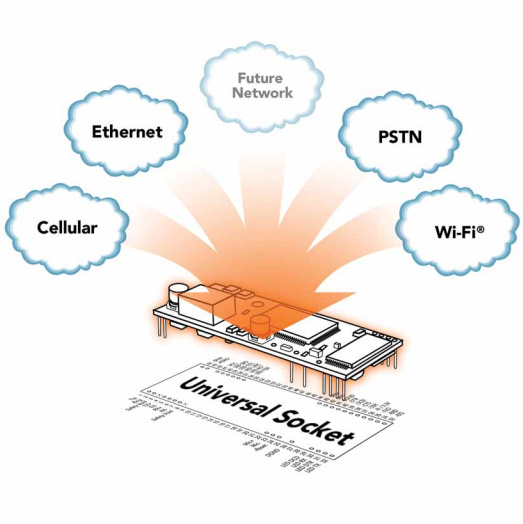
- Interchangeable communications devices
- Quick-to-market
- Global approvals
- Easy migration to future networks

The Multi-Tech SocketModem® embedded modem creates communication-ready devices by integrating data/fax modem functionality into a single, universal socket design. The SocketModem embedded modem utilizes a space-efficient (1" x 2.5"), design that allows OEMs to integrate a wide range of modem functions and speeds into any product platform. The complete, ready-to-integrate modem dramatically reduces development time and costs for system designers. The SocketModem embedded modem complies with telecom requirements globally and can be shipped worldwide.

Features

- Complete data/fax modem solution including the controller, data pump, and DAA
- Universal Socket connectivity
- Telecom approved in more than 50 countries
- V.92/56K, V.34/33.6K and V.22bis/2400 bps data rate options
- High speed models backward compatible with lower speeds
- V.34/33.6K or V.17/14.4K fax
- V.44 and V.42bis data compression
- V.42 error correction
- Intelligent DAA technology detects line status
- U.S. Caller ID reporting
- Low power/sleep mode
- Flash memory for easy updates
- FastPOS (V.29) and V.22bis Fast Connect
- V.80 Synchronous Access
- 2-wire leased line operation
- 10 or 11-bit modes
- 3.3V or 5V power input options
- Serial or parallel interfaces
- Two-year warranty

Some features only available on select models.



MultiTech® Systems

Highlights

Applications. With connect rates from 300 to 56,000 bits per second (bps), the SocketModem embedded modem is targeted at applications that periodically need to send or receive data over a standard telephone line. It is ideal for:

- Appliances
- ATM terminals
- Credit card and check verification systems
- Data collection
- Gas pumps
- Industrial and medical remote monitoring systems
- Point-of-sale terminals
- Remote diagnostics
- Remote metering
- Security systems
- Television set-top boxes
- Ticketing machines
- Vending/gaming machines

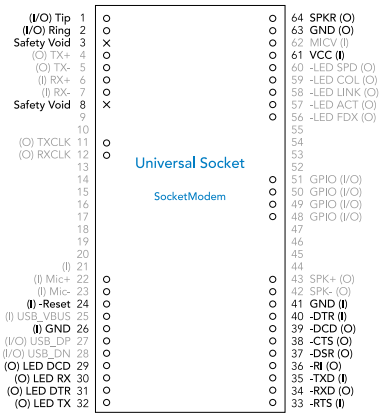
Integration Reduces Space, Power and Cost. The SocketModem embedded modem integrates the controller, data pump and data access arrangement (DAA) in one communications device. This integration requires low power, low real estate, and provides an overall reduction in costs.

Reduces Development Time. The SocketModem embedded modem can make your existing and next generation device, machine, or system, communication-ready without requiring significant hardware changes to its design. The SocketModem embedded modem actually provides faster time-to-market because it relieves the burden and expense of writing modem controller code. The complete, ready-to-integrate modem allows you to enhance your product while you focus on developing its core features.

Real-time Data Transfer. By adding the SocketModem embedded modem to any system application, you will achieve real-time data transfers at the fastest analog modem speeds. For data communications, the industry-standard V.92 modem downloads at 56K speeds from a digital V.92 server and uploads at 48K bps. If needed, the SocketModem embedded modem will negotiate slower speed connections automatically. For fax applications, it supports industry-standard V.34 (33.6K bps), V.17 (14.4K bps) or Group 3 (9600 bps) faxing using Class 1/1.0 or Class 2/2.0/2.1 commands. If your application does not require fax capabilities, a lower-cost module is available.

Industry-standard Modem Commands. The SocketModem embedded modem provides industry-standard AT-style commands for ease of integration into your existing software applications. In addition, it also provides industry-standard error correction and data compression to shorten transfer time and ensure data is sent error-free.

SocketModem Pin-Out. The SocketModem embedded modem interfaces easily with existing products through a standard serial or parallel communication channel. The complete on-board DAA interfaces with an RJ-11 jack for direct connection to the public switched telephone network. The SocketModem embedded modem provides audio circuit outputs for audio call-progress monitoring, and LED driver outputs for visual monitoring of Carrier Detect, Transmit Data, Receive Data and DTR signals. The SocketModem embedded modem is a Data Terminal Equipment (DTE) device with a serial or parallel interface. The serial DTE channel is capable of transfer speeds to 230.4K bps and can be interfaced directly to a UART or microcontroller.



Universal Socket Connectivity. Multi-Tech's Universal Socket is a flexible, comm-port architecture that provides cellular, Ethernet, PSTN or Wi-Fi® network access with interchangeable communications devices. This means you can utilize one system design and populate it with your connectivity device of choice accommodating multiple connectivity requirements. In addition, you are assured a seamless migration to future technologies.

Advanced Set-up and Control Features. The SocketModem embedded modem has several advanced features built into the design. It supports remote configuration, which means you can have central site setup and control of the remote modem. In addition, the communications devices provide three-number storage for automatic dialing capabilities and non-volatile memory (NoVRAM) to store user profiles.

Global Compliance. The SocketModem embedded modem has successfully completed international compliance testing (homologation) for global approval. This means one communications device can be specified per design without having to integrate specific country approved devices for each system used across the world.

Firmware Upgrades. The SocketModem embedded modem also features flash memory to allow for firmware updates. These upgrades allow the user to stay current with the latest enhancements that Multi-Tech has to offer.

Developer's Kit. The Developer's Kit allows you to plug in the communications device and use it for testing, programming and evaluation. See www.multitech.com/pdf/devkit.go for more details.

Telecom Certifications:

Argentina	Herzegovina	Norway
Australia	Hong Kong	Philippines
Austria	Hungary	Poland
Belgium	Iceland	Portugal
Bosnia	Indonesia	Romania
Brazil	Ireland	Russia
Bulgaria	Israel	Singapore
Canada	Italy	Slovak Republic
Chile	Japan	Slovenia
China*	Korea	South Africa
Cyprus	Latvia	Spain
Czech Republic	Liechtenstein	Sweden
Denmark	Lithuania	Switzerland
Estonia	Luxembourg	Taiwan
Finland	Malta	Thailand
France	Mexico	Turkey
Germany	Netherlands	United Kingdom
Greece	New Zealand	United States

The above list is our target set of countries in which the global SocketModem embedded modems are approved. Many of the approvals are completed at the time the product is released to market; whereas others may take additional months to complete. Furthermore, some models may have additional approvals.

* MT9234SMI only.

SocketModem Models	MT2492SMI-xx	MT9234SMI-xx	MT5692SMI-xx
Telecom Approvals			
Global		X	X
Interface			
Serial	X	X	X
Parallel		X	X
Power			
3.3 Volt	X	X	X
5 Volt	X	X	X
Maximum Data Rate			
V.92/56K	X	X	X
V.34/33.6K	X	X	X
V.22bis/2400 baud	X		
Fax Capability			
V.34 Fax		X	
V.17 Fax		X	X
V.29/V.27/V.21 Fax		X	X
Fax Class 1		X	X
Fax Class 1.0		X	X
Fax Class 2		X	
Fax Class 2.0/2.1		X	
Fax Compression (MH, MR, MMR)		X	
Error Correction Mode (ECM)		X	
Memory Type			
Flash + RAM		X	
Masked ROM	X		X
Features			
11-bit Mode		X	
U.S. Caller ID	X	X	X
Leased Line (2-wire)		X	
V.22bis Fast Connect	X	X	X
FastPOS (V.29)			X
Callback Security		X	
Industrial Temp Range		X	X
Medical Isolation		X	
LED Pin Outputs		X	X
Extension Pickup Detection	X		X
Remote Hang-up Detection	X		X
Line-in-use Detection	X		X
Digital PBX Detection & Protection	X		X
Voice Record & Playback (TAM)		X	X
Speakerphone I/O			X

Some features do not apply to all build options within a given family. See ordering information on back page for specific build options and features.

Specifications

Data Modem

ITU-T V.92/V.90/56K (-92 build option), V.34/33.6K (-34 build option), V.22bis/2400 baud (-22 build option), V.22, V.23, & V.21; Bell 212A & Bell 103

V.44 Error Correction

V.42 LAPM, MNP 2-4 Error Correction

V.42bis & MNP Class 5 data compression

Fax Modem

ITU-T V.34 (MT9234SMI)

ITU-T V.17, V.29, V.27, & V.21 Ch. 2 (MT9234SMI)

Telephony/TAM

V.253 commands

2-bit & 4-bit ADPCM, 8-bit linear PCM, & 4-bit IMA coding

8kHz sample rate

Concurrent DTMF, ring, & U.S. Caller ID detection

Power Requirements

MT9234SMI:

Typical: 125mA (.62W @ 5VDC)
Maximum: 138mA (.72W @ 5.25VDC)
Typical: 122mA (.40W @ 3.3VDC)
Maximum: 136mA (.49W @ 3.6VDC)

MT5692SMI:

Typical: 72mA (.24W @ 3.3VDC)
Maximum: 81mA (.27W @ 3.3VDC)
Typical: 76mA (.38W @ 5VDC)
Maximum: 89mA (.45W @ 5VDC)

MT2492SMI:

Typical: 95mA (.48W @ 5VDC)
Maximum: 114mA (.6W @ 5.25VDC)
Typical: 95mA (.31W @ 3.3VDC)
Maximum: 114mA (.41W @ 3.6VDC)

Physical Description

2.541" L x 1.045" W x 0.68" H; 0.6 oz.
(6.45cm x 2.65cm x 1.7cm; .017 kg.)

Operating Environment

0° to +70° C (MT2492SMI)

-40° to +85° C (MT9234SMI & MT5692SMI)

Certifications & Approvals

UL 1950, EN 60950, CSA 950, AS 3260, CCC, EN 60601 (High Voltage Dielectric build option)

EMC: FCC Part 15 (Class B), Canada (Class B), EN 55022 (Class B), EN 55024

RoHS Compliant

Ordering Information

Product	Description	Region
MT9234SMI-92	V.92 Serial Data V.34 Fax	Global
MT9234SMI-P-92	V.92 Parallel Data V.34 Fax	Global
MT9234SMI-L-92	V.92 Serial Data V.34 Fax	Global
MT9234SMI-P-L-92	V.92 Parallel Data V.34 Fax	Global
MT9234SMI-HV-92	V.92 Serial Data V.34 Fax	Global
MT9234SMI-P-HV-92	V.92 Parallel Data V.34 Fax	Global
MT5692SMI-92	V.92 Serial Data/Fax	Global
MT5692SMI-L-92	V.92 Serial Data/Fax	Global
MT5692SMI-X-L-92	V.92 Serial Data/Fax (no LED pins)	Global
MT5692SMI-P-92	V.92 Parallel Data/Fax	Global
MT5692SMI-P-L-92	V.92 Parallel Data/Fax	Global
MT5692SMI-V-92	V.92 Serial Data/Fax	Global
MT5692SMI-34	V.34 Serial Data/Fax	Global
MT5692SMI-L-34	V.34 Serial Data/Fax	Global
MT5692SMI-P-34	V.34 Parallel Data/Fax	Global
MT5692SMI-P-L-34	V.34 Parallel Data/Fax	Global
MT5692SMI-V-34	V.34 Serial Data/Fax	Global
MT2492SMI-92	V.92 Serial Data Only	US/Can/Euro
MT2492SMI-34	V.34 Serial Data Only	US/Can/Euro
MT2492SMI-22	V.22bis Serial Data Only	US/Can/Euro
MT2492SMI-L-92	V.92 Serial Data Only	US/Can/Euro
MT2492SMI-L-34	V.34 Serial Data Only	US/Can/Euro
MT2492SMI-L-22	V.22bis Serial Data Only	US/Can/Euro
MTSMI-UDK	SocketModem Serial Developer Kit	Global
MTSMI-P-DK	SocketModem Parallel Developer Kit	Global

Ordering codes

-92	V.92/56K data rate
-34	V.34/33.6K data rate
-22	V.22bis/2400 baud data rate
-P	Parallel interface (default is serial)
-X	Exclude LED pin outputs (Legacy MT5600SMI and MT3400SMI support)
-L	3.3 Volt power input (default is 5V)
-HV	High Voltage dielectric isolation (EN60601)
-V	Speakerphone I/O
-DK	Developer kit
-UDK	Universal Developer kit

Produced in the US of US and non-US components.

Features and specifications are subject to change without notice.

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