@Web Hardwired TCP/IP Ethernet Solutions

Development Kit and Modules

GET YOUR APPLICATION CONNECTED WITHOUT SOFTWARE!



Atmel offers unique @Web hardwired TCP/IP Ethernet-based solutions made in partnership with WIZnet®, for 80C51 MCU-based systems.

They include a complete set of development and evaluation boards as well as ready-to-plug modules that do not require any additional development, thus allowing an easy connection of any embedded application to the Internet.

Typical applications include RS232, RS485 or CAN to Ethernet Gateway, factory automation, building and home automation, remote power on-off control, bar-code and time recording readers, metering and data gathering.

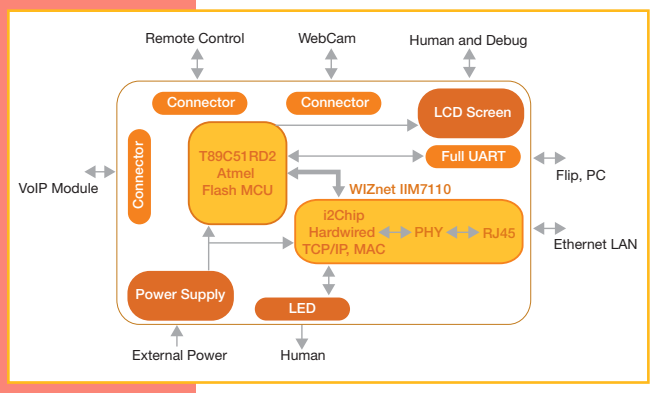
Networked by i2Chip from WIZnet

ATMEL®

@WEB LAN51H DEVELOPMENT KIT

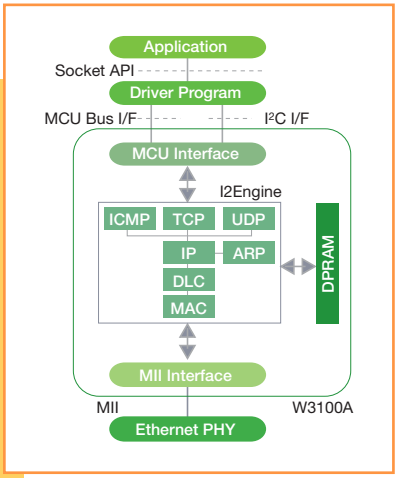
The @Web LAN51H Development Kit is designed for testing high-speed Internet connectivity with Atmel 80C51 Flash MCU and the WIZnet i2Chip®, a unique hardwired embedded Ethernet TCP/IP chip.

The customer can change functions and reload firmware using In-System Programming capability. Error messages can be displayed on the LCD screen, allowing easy debug of user's application. After evaluation, the drop-in network module (IIM7010) supplied in the kit can be re-used.



Network Interface

- 10/100 Base-T Ethernet Interface
- Full Hardwired TCP/IP Chip from WIZnet: i2Chip W3100A
  - TCP, IP, UDP, ICMP, DHCP, ARP, DLL MAC Protocols
  - Integrated Ethernet DLC and MAC
  - Four Concurrent Channels Support
  - Full-duplex Data Transfer Up to 400 Kbps with Standard C51
  - Memory Bus Interface
  - Standard MII Interface for Under-layer Physical Chip
- Ethernet PHY: Realtek RTL8201



Internet Services and Applications Supported

- HTTP server enables direct web browser access
- DHCP, TCP, UDP application example with source codes provided
- Loopback application example with source codes provided
- Dynamic Ethernet Address Configuration using In-system Programming

Communication Ports

- Direct Connectivity through RS232
  - Baud rate Up to 230 Kbps
  - DB9 Connector
- Ethernet Port
  - Auto Detecting: 10/100 Mbps supported
  - Standard RJ-45 Plug with Integrated Transformer

@Web LAN51H Evaluation Kit Software

- Demonstration Software Source Code
- FLIP Software (Atmel FLexible In-system Programming) for Program Updates
- User Guide and Application Notes
- Documentation on CD-ROM

Application Microcontroller

- Atmel T89C51RD2 On-chip Flash MCU:
  - 64-Kbyte Flash Program Memory:
    - 2.6-Kbyte for i2Chip Ping Mini-drivers
    - 4-Kbyte for TCP and UDP Each
- LCD Screen for Simple Operating Monitoring
- Dynamic Network Configuration through Serial Interface
- Program Monitor for Easy Development
- PLCC44 Package on Socket for Debug
- In-system Programming Support

Ordering Information

Part Number: ATWebDVK-02

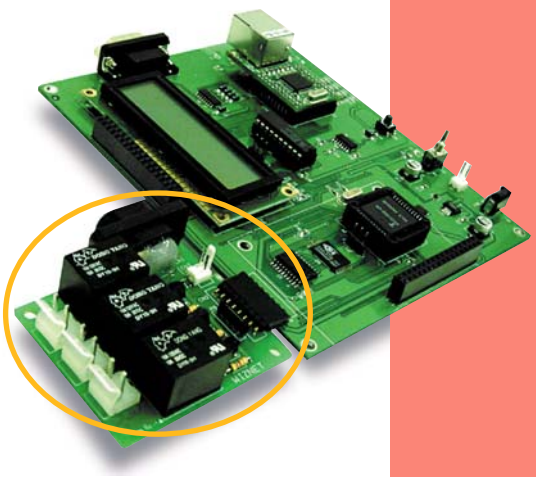
@Web LAN51H Application Modules

Atmel provides @Web LAN51H development kits with additional modules directly connected to the @Web LAN51H development board.

These additional modules can run the functions of either a Remote Power On-off Control, or Voice Transmission (VoIP), or Network Web Camera.

Remote Controller Features

- On-off Control Function Using Web Server
- LED On-off Control and Text LCD Display Using Web Browser 3 x 110V~220V Relay Switches

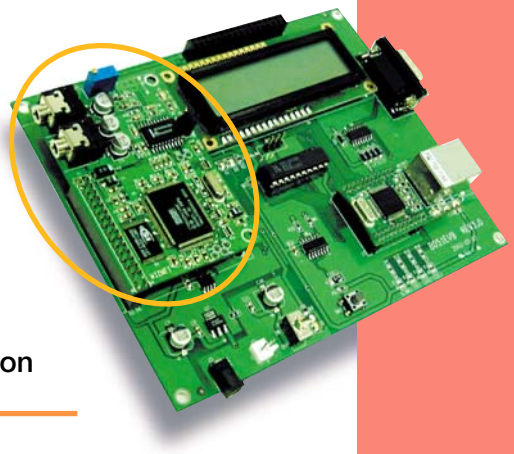


LAN51H & Remote Controller Kit Ordering Information

Part Number: ATWebDVK-02RC

Voice Transmission (VoIP) Features

- Full-duplex Voice Transmission through Internet
- Supports G723.1 Standard True Speech Voice Codec
- Normal Microphone Input and Speaker Output
- Audio DAC (MC745483) and DSP (CT8022A) Included – Loudspeaker Connector

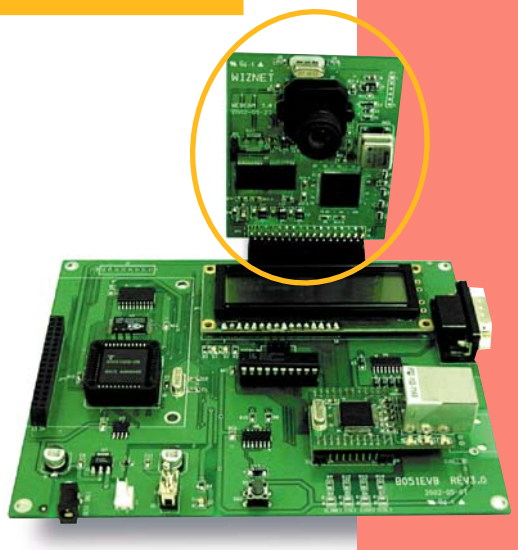


LAN51H & Voice Transmission Kit Ordering Information

Part Number: ATWebDVK-02VOIP

Network WebCam Features

- Four-channel CMOS Web Camera with Standard JPEG Coding
- Video Coding:
  - Hardware MJPEG Codec (LC82210 from Sanyo®)
- Video Mode:
  - VGA, CIF, QCIF
- CMOS Sensor:
  - 1/3" Color CMOS Image Sensor (OV7620 from OmniVision®)
  - Maximum Frame Rate: 3 fps with Standard C51



LAN51H & Network WebCam Features Kit Ordering Information

Part Number: ATWebDVK-02WC

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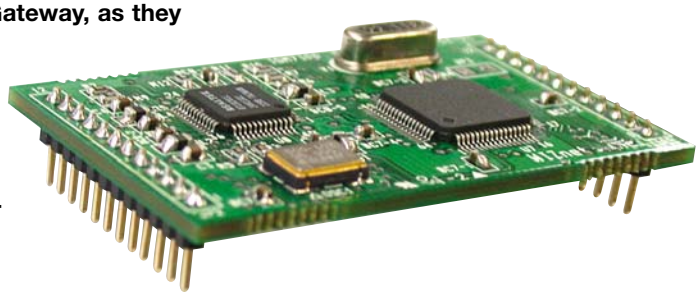
Today, thanks to Atmel ready-to-plug Internet modules, it is possible for the user to connect any system to the Internet within a reduced development time. Atmel ready-to-plug Internet modules provide the best optimized and cost effective solution for RS232 or CAN to Ethernet Gateway, as they allow real-time data processing by hardware stack protocol, without the need for RTOS or changing existing application software.



	@Web SEG32 RS232 to Ethernet Gateway	@Web CEG32 CAN to Ethernet Gateway
Hardware Protocols	TCP, UDP, IP, ARP, ICMP, Ethernet MAC	
Network Interface	10/100 Base-T Ethernet (Auto detection)	
Main Serial Port	1 x RS232 port (TTL type)	Full CAN 2.0B
Serial Line Format	8 Data, 1 Stop, No Parity	Up to 15 x 8 Bytes Channels
Serial Flow Control	XON/XOFF, CTS/RTS	
Serial Signals	TXD, RXD, CTS, DTR, DSR, GND	RxDC, TxDC
Management Software	Software for Remote Downloading and Configuration	
Transmission Speed	1200 Bps to 230 Kbps	Up to 1 Mbps
Flash MCU Type	AT89C51RC2	T89C51CC01
Memory Capacity	32-Kbyte Flash, 32-Kbyte SRAM	32-Kbyte Flash, 32-Kbyte SRAM
Power	3.3V, 150 mA	
Temperature Range	-10 to +65°C	
Connector Type	2 x 12 Pin Header Array (2 mm high)	
Dimmensions	50 mm x 30 mm x 10 mm	

Ordering Information:

For RS232 to Ethernet Gateway Module

Part Number: ATWebSEG-32

For CAN to Ethernet Gateway Module

Part Number: ATWebCEG-32



Gateway Modules Evaluation Board

RS232 to Ethernet Gateway Module

Part Number: ATWebEVK-05

For CAN to Ethernet Gateway Module

Part Number: ATWebEVK-06

Contact Information

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