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.
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

**@Web LAN51H Evaluation Kit Software**
- Demonstration Software Source Code
- FLIP Software (Atmel FFlexible In-system Programming) for Program Updates
- User Guide and Application Notes
- Documentation on CD-ROM

**Ordering Information**
*Part Number: ATWebDVK-02*
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*
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.

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

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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