

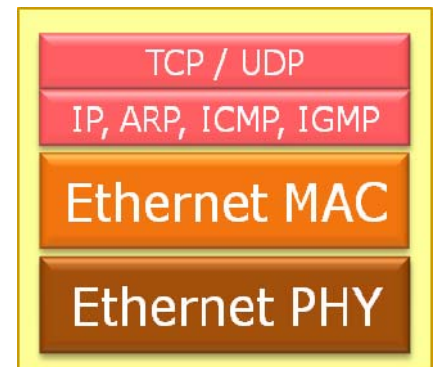
## WIZnet W5500 Hardwired TCP/IP Embedded Internet-Controller

The gate level integrated TCP/IP Hardwired-Stack of the W5500 supports all level-3 and -4 protocol layers like TCP, UDP, IPv4, ICMP, ARP, IGMP, PPPoE (ADSL) and Multicast. The HW-Stack also processes the handshaking and the controller is relieved of all protocol tasks. As TX/RX buffer 32kByte dual-port SRAM are available for up to 8 simultaneous Internet connections.

The SPI (up to 80 MHz) supports **data rates up to 10Mbits/s**.

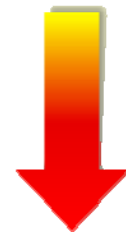
Open source drivers and examples for different  $\mu$ C-platforms are available. No operating system is needed even for WEB-, FTP- or DHCP-client or server.

	Software Stack	W5500
Performance	Low and depending on Task	High and Stable
Effort	Software-Development, hard to debug	Easy to integrate into any Application
Basics	TCP/IP Protocol & OS Kernel, Driver & Socket	Only Socket or API programming
Stability	Depending on Operating system	No OS needed, Stack can not be attacked

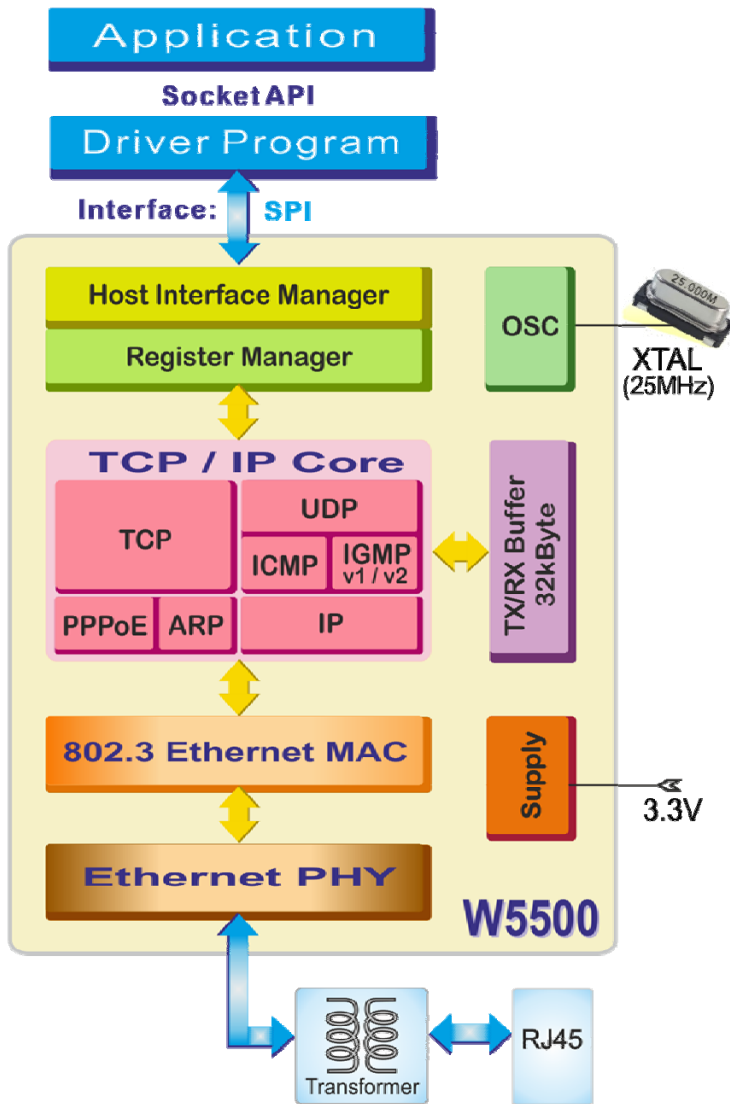


### General Features

- Hardwired TCP/IP:
  - TCP, UDP, ICMP, IGMP, IPv4, ARP, Ethernet
  - Up to 8 independent sockets simultaneously
  - Supports hybrid TCP/IP stack for software protocols
  - Internal 32K Bytes Dual-Port-RAM (TX/RX buffer)
- Embedded Ethernet-MAC:
  - IEEE 802.3 (10Base-T) und 802.3u (100Base-TX)
  - Multicast
  - Connection PPPoE protocol with PAP/CHAP authentication mode for ADSL
- Embedded 10BaseT/100BaseTX PHY:
  - Auto Negotiation for full- and half-duplex
- Fast Serial Peripheral Interface for SPI-mode 0 and 3
- Up to 10MBit/s thurput at application layer
- LED outputs: full-/half-duplex, link, speed
- 3.3V operation with 5V I/O signal tolerance
- Power Down mode: 13mA typical
- Provides WoL (Wake on LAN)
- Temperature range: -40°C to 85°C
- Small 48 Pin LQFP Package with 0,5mm pitch



# Block Diagram WIZ550io Module



## Applications

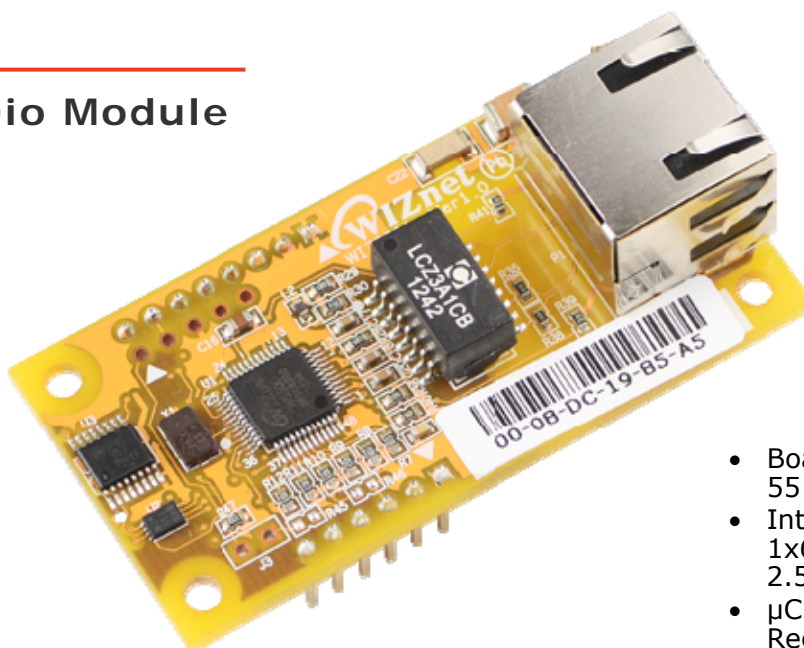
- Home Network & Set-Top Boxes
- Serial-to-Ethernet - Gateways
- Smart Metering
- GPIO-to-Ethernet - Sensor Network
- Security Systems & Cameras
- Factory and Building Automation
- Medical Monitoring Equipment

## Power Down & WoL

In the power-down mode the Ethernet interface and TCP/IP core are deactivated. Only the SPI interface is active for access to the registers.

W5500 can activate a sleeping MCU by an interrupt signal after receiving a Wake-on-LAN „magic packet“. For this the W5500 must be active.

## WIZ550io Module



- Board size: 55 x 26mm<sup>2</sup>
- Interface Connector: 1x6 pin + 1x8 pin header, 2.54mm pitch
- µC on Board to initialize Registers and MAC-Address