Product Brief

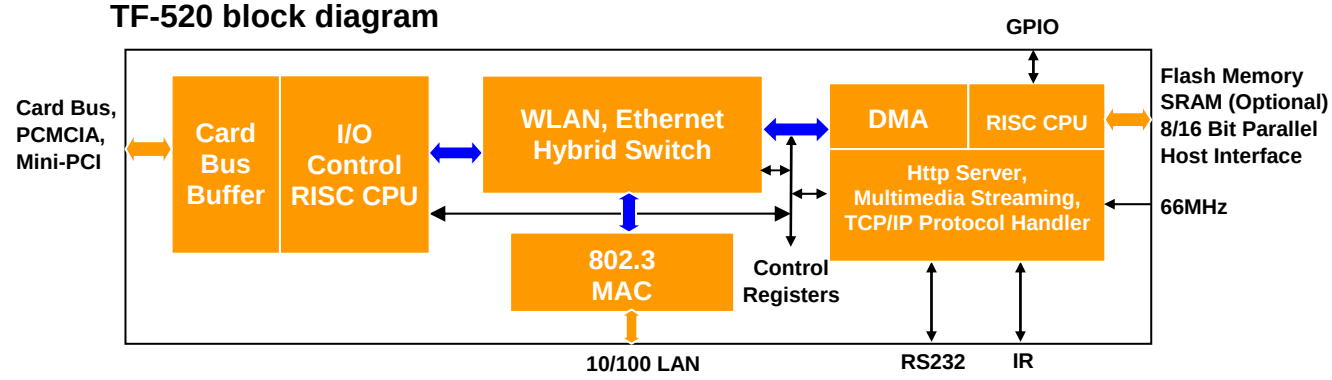
TF-520

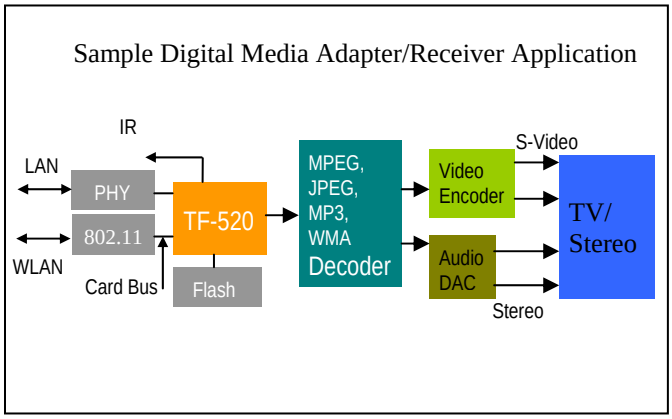
TF-520 Wireless Web Server Controller

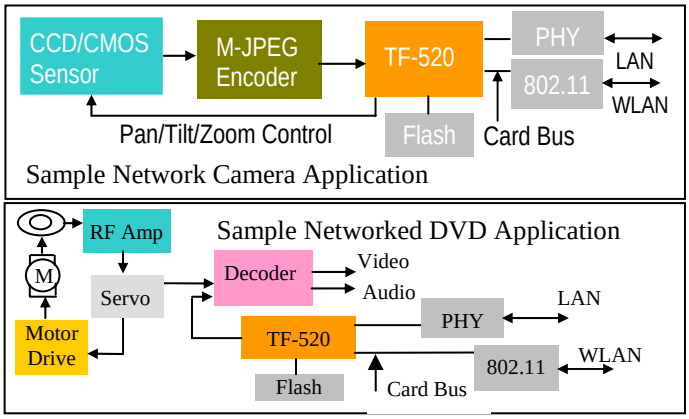
Taifatech's TF-520 Wireless Web Server Controller provides a very cost effective, high performance SoC solution for consumer electronics, networking, industrial and network video camera manufacturers that need to add wireless connectivity to their products using the industry standard 802.11 WiFi wireless technology. The controller has a built-in 10/100 Ethernet MAC, Card Bus interface, Infrared Interface, DMA and is bundled with TCP/IP Protocol and Web Server software. The Card Bus interface supports Card Bus, PCMCIA or Mini-PCI mode which allows the use of different peripherals such as 802.11 wireless or Compact Flash cards to meet the design needs.

The unique architecture of the TF-520 allows different design possibilities whether it is wired or wireless. The built-in 10/100Mbps MAC on the TF-520 allows easy connection to the LAN and the Card Bus interface allows connectivity to WLAN using off the shelf 802.11a/b/g WLAN Cards. The built-in Web Server allows access from a browser through the LAN or the Internet for remote controlling or programming. It is ideal for Digital Video Recorders, projectors and Wireless Video Cameras. Maximum throughput is achieved with the built-in WLAN and Ethernet hybrid switch which results in higher bandwidth to support the ever increasing speed of WLAN cards. The performance of the TF-520 is further improved by the use of dual RISC cores, DMA and protocol accelerator. All these make the TF-520 the most cost effective solution to add wireless connectivity and remote accessing capability to devices.

TF-520 block diagram







Taifatech Inc.
8F-1, No.289, Sec. 2, Kuan-Fu Rd.,
Hsin Chu, Taiwan R.O.C.

Phone: 886-3-516-3216
Fax: 886-3-516-3218
Web: www.taifatech.com

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Optimizing Design Through ASIC

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HARDWARE FEATURES

- **Ethernet/WLAN Hybrid Switch**
  - High speed inter-connectivity with 32KB buffer
  - 100 Mbps throughput for each port
- **I/O RISC Processor**
  - Card Bus Interface
    - Selectable Card Bus, PCMCIA or Mini-PCI mode
  - Pipelined RISC core dedicated to card bus driver processing
  - 32KB program, 4KB data & 20KB packet buffer
- **10/100Mbps Ethernet MAC**
  - Selectable MII or Reverse MII interface
  - 802.3x flow control for full duplex mode and Jamming for half duplex mode
- **HTTP Server & TCP/IP Protocol Handler**
  - HW Internet Protocol Accelerator
  - Pipelined RISC TF-390 core, 66MHz operating frequency, single cycle per instruction
  - 16KB memory for data, packet buffer & program mirroring (4K, 8K or 12KB)
  - Supports up to 2MB External Flash/ROM/SRAM
  - External Flash write support
- **Two sets of Extended I/O**
- **8-bit customer ID support through bonding option**
- **Supports WDT for H/W and S/W fatal error protection**
- **0.18 um CMOS technology, 1.8V internal operation, 3.3V IOs**
- **128-pin QFP package**
- **TF-520-ACL complies with RoHS.**

SOFTWARE FEATURES

- **Bundled TCP/IP Protocol Stack and HTTP Server software**
- **IP, UDP, TCP and ICMP Protocol Accelerator support**

BENEFITS

- **Offers flexibility for either wired or wireless connectivity**
- **Ability to manage devices via Web browser over LAN or Internet**
- **Less components & smaller footprint for system design**
- **Uses the built-in Internet Protocol Accelerator to increase Internet Protocol processing performance**
- **Depending on the application, it requires no or very little external memory which reduces the BOM cost.**
- **The Ethernet/WLAN Hybrid Switch maximizes the throughput between LAN and WLAN which is needed by higher speed WLAN cards such as turbo 802.11g.**
- **Wide spectrum of applications**
  - Wireless Network Cameras
  - Digital Media Receivers (DMR)
  - Networked DVD Players
  - Internet objects/appliances
  - Wireless Projectors

520-BD-01 Wireless RS-232 WebControl Demonstration Board

This board allows quick connection to the Network through the device's RS-232 port or using GPIO. It allows the device to be controlled or programmed using a browser through the LAN or the Internet.

520-BD-02 Wireless Network Camera Demonstration Board

This board integrates the TF-520 with an M-JPEG encoder and a CMOS sensor. It is a fully functioning wireless Network Camera.

Please send requests for evaluation kits to sales@taifatech.com
For additional information on the demonstration kits and Software Development Kits, please visit us at www.taifatech.com.

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