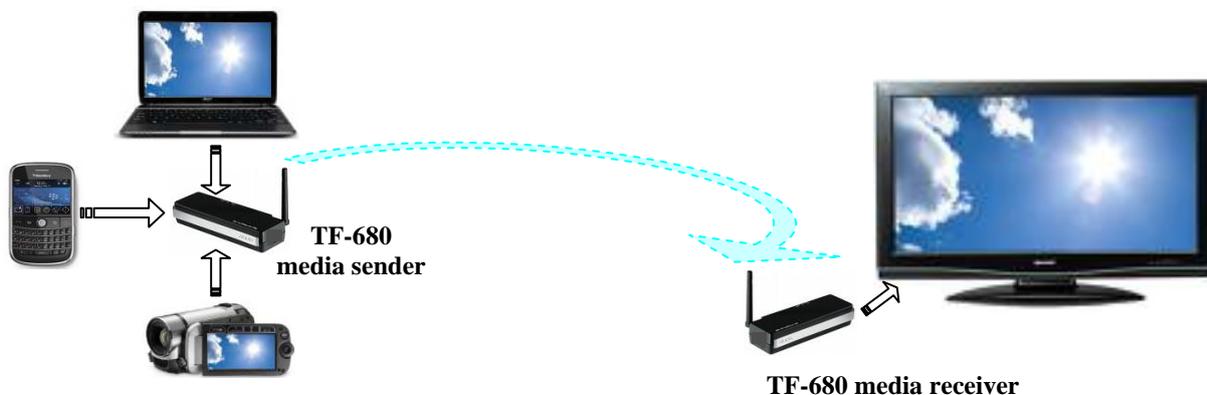
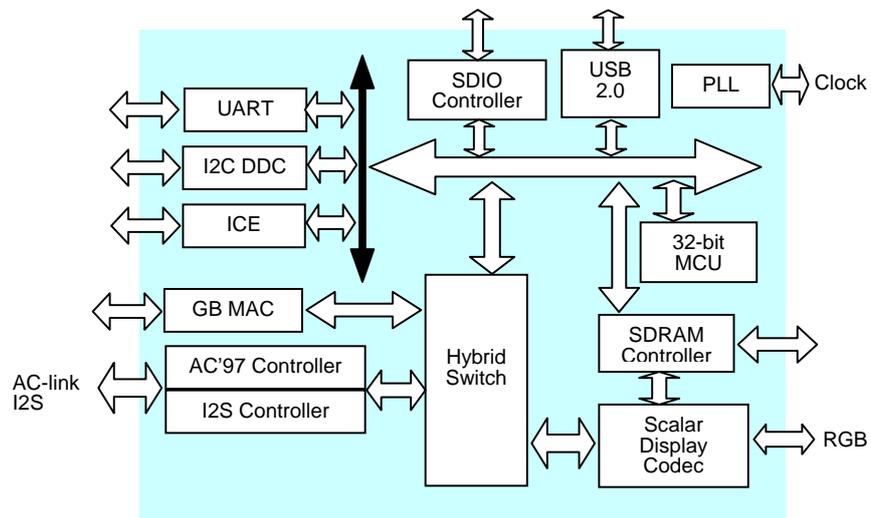


TF-680

TF-680 is a single chip HD streaming SoC that includes HD video codec and up to 7.1 channels audio. TF-680 supports network connectivity via SDIO, USB or Ethernet interface that enables the different connection methods. TF-680 compresses video and audio data and transmits them to Ethernet or WiFi. It can also decompress video and audio data from WiFi or Ethernet and display them on a TV. Image engine in TF-680 compresses video into MJPEG format and the support resolution of video can be up to HDTV resolution. It decompresses MJPEG files and delivers video to a display. Comparing with other compression methods such as MPEG1/2/4 and H.264, MJPEG delivers very low latency bidirectional interactive mechanism which is the best solution for interactive applications. Lip sync mechanism also designed in the TF-680 guarantees video and audio are in sync.

TF-680 embeds scalar engine that can scale down the captured pictures and then transmits them into network under limited network bandwidth.

Two UART, one I2C and one DDC are used for control purpose. Either AC'97 controller or I2S controller are dedicated for audio input and I2S interface supports up to 7.1 channels audio. The ICE interface provides the easiest way for software engineer to develop firmware and debug it. Gigabit MAC is included in TF-680.



TF-680**HARDWARE FEATURES**

- ◆ **CPU core**
 - 32-bit MCU, 200MHz operating frequency
 - 8KB instruction cache and 8KB memory cache
 - 8 multi-functions GPIO ports
- ◆ **Image engine, 166MHz operating frequency**
 - Encode/decode from 16 x 16 to 2M pixel image
 - Input image format
 - RGB 888
 - CCIR 656/601
 - Output image format
 - RGB 888/666
 - MJPEG compression or decompression supports from 16 x 16 to 2M pixel image resolution including the following popular resolutions:
 - 640X480 @ 85fps
 - 800X600 @ 85fps
 - 1024X768 @ 75fps
 - 1280X1024 @ 60fps
 - 1600X1200 @ 30fps
 - 720X480 @ 60fps
 - 1280X720 @ 60fps
 - 1920X1080 @ 30fps
- ◆ **Scalar to scale up/down the images**
- ◆ **AC'97 controller for audio operating**
- ◆ **I2S master/slaver for audio operating up to 7.1 channels**
- ◆ **Lip-sync mechanism guarantees audio and video are in sync**
- ◆ **USB 2.0/1.1 host/device controller**
- ◆ **One SDIO host controller**
- ◆ **One SDIO device controller**
- ◆ **One Gigabit MAC supports RGMII/ MII/ RMII/ Turbo MII**
- ◆ **One single bit IR controller**

- ◆ **One PS2 interface**
- ◆ **Two UART: one high speed UART and one standard UART**
- ◆ **I2C for control use**
- ◆ **ICE interface**
- ◆ **Supports DDC**
- ◆ **Supports external SDRAM 2Mx32, 4Mx32 or 8Mx32**
- ◆ **TF-680-ACL complies with RoHS.**
- ◆ **Package 244 balls TFBGA**

SOFTWARE FEATURES

- Embedded TCP/IP Protocol Stack
- Bundled HTTP Server Software
- IP, UDP, TCP, ICMP and IGMP Protocol support

BENEFITS

- ◆ **Video input/output supports up to HDTV resolution**
- ◆ **A lot of hardware accelerators to increase overall performance without increasing CPU utilization**
- ◆ **Very low latency mechanism for interactive applications**
- ◆ **Highly integrated encoder SoC to reduce BOM cost**
- ◆ **Wide spectrum of applications**
 - Handset, camcorder or PC to TV A/V streaming
 - Surveillance system
 - Digital signage
 - Building entry system

For additional information please visit us at www.taifatech.com or send email to sales@taifatech.com.