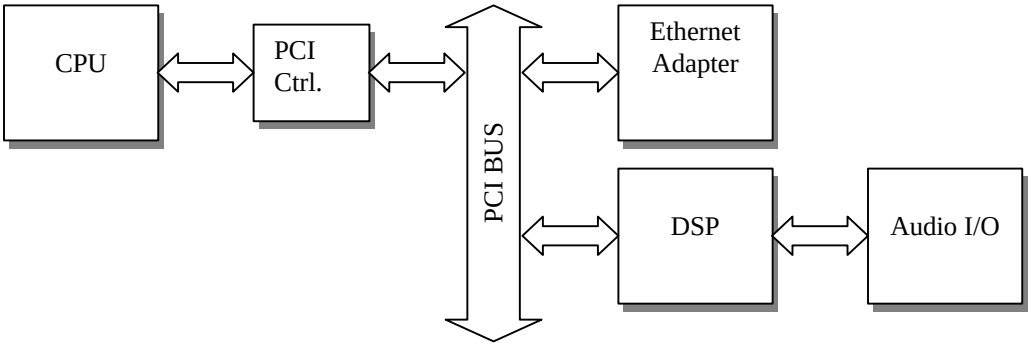
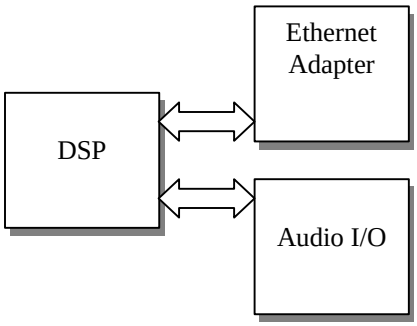
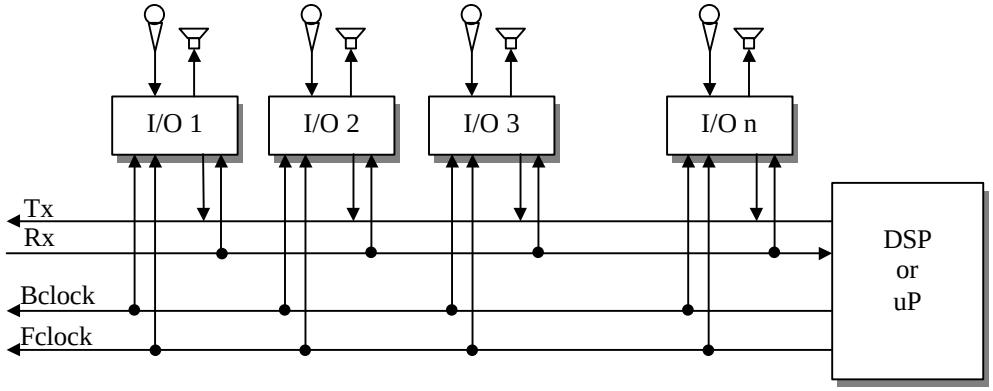
Topology of Typical Applications



Topology of an Embedded System for Audio Applications

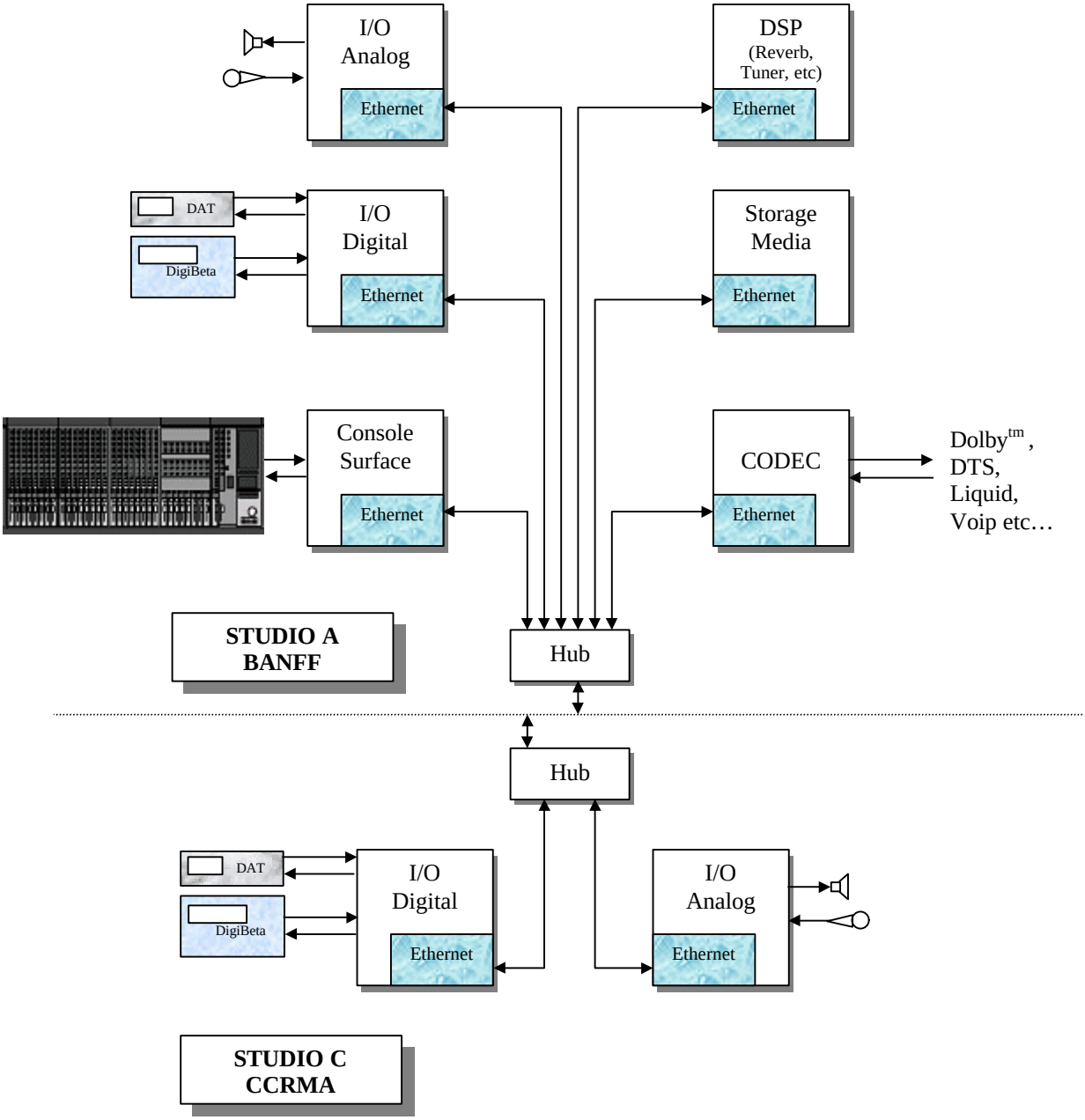


Topology of a TDM (Time Division Multiplex) System for Audio Apps



- TDMs are **Synchronous**
- 4 Line Bus – Send, Receive, Bit Clock, and Frame Clock
- Each I/O device is assigned a SLOT ID
- Each I/O receives or transmits ONLY on its own slot. On the other slots that do not correspond with its own, each device keeps the Tx and Rx lines in High Impedance state.
- Scale up involves increase the bus frequency
- It is not recommended to extend the bus from its local nature, hence restricting the distance between devices. Electrical interfaces becomes extremely complicated and expensive when trying to increase the distance
- **Delivery is guaranteed**. Fault or non existence of a device does not affect the bus, but introduce noise and unpredictable effects if lines not properly terminated

Topology of a Switched Packet Network System for Audio Apps



- As its name indicates, Switched Packet Systems are **Asynchronous**
- One single connection per device
- Each device has its own IP Address
- Highly scalable. Supports long hauls
- **Delivery is not guaranteed**, and it depends upon network traffic. Fault or non existence of a device is completely transparent to the system. (Unless you specifically require that particular device!)