

АРХИТЕКТУРА СОВРЕМЕННЫХ ЭВМ

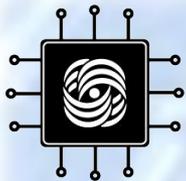
Лекция 3:

Типовое устройство компьютера. Устройство внешних носителей данных

ВМиК МГУ им. М.В. Ломоносова, Кафедра АСВК

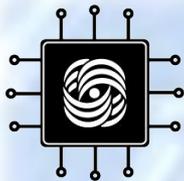
Чл.-корр., профессор, д.ф.-м.н. Королёв Л.Н.,

Ассистент Волканов Д.Ю.

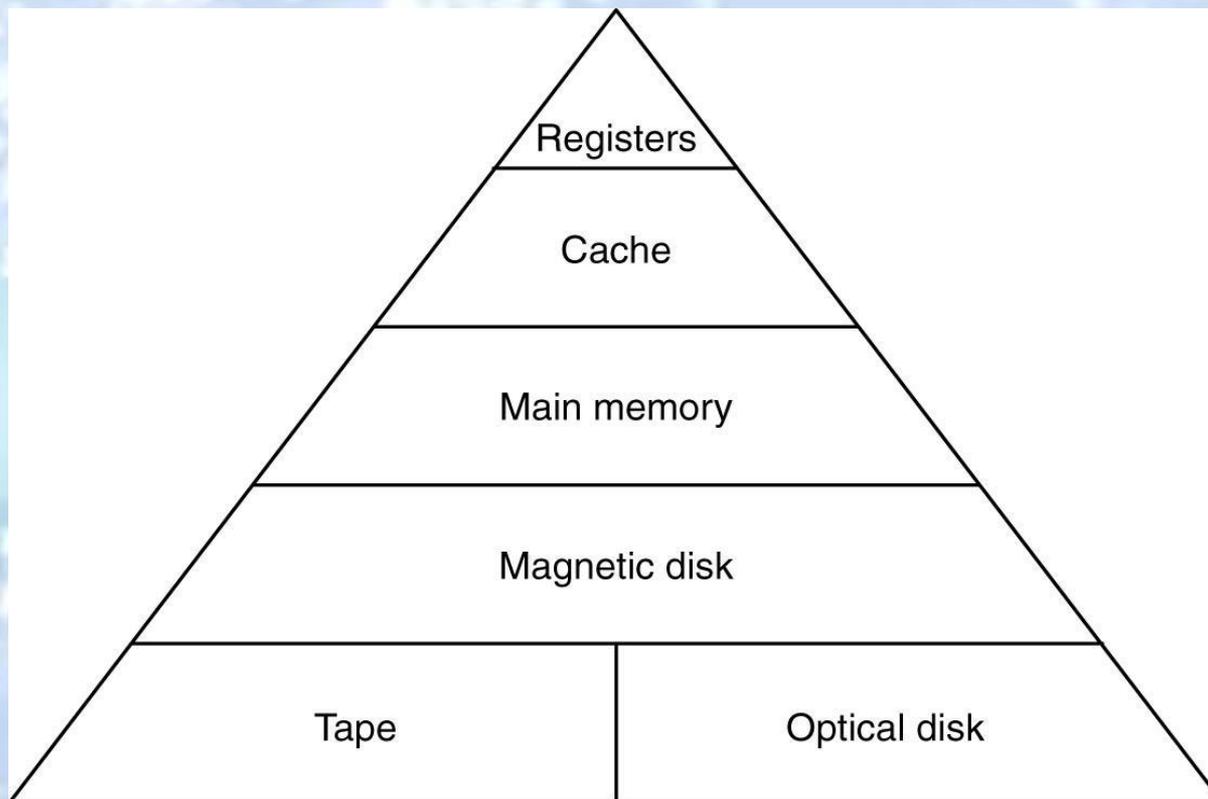


План лекции

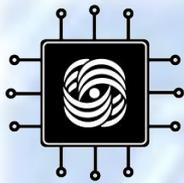
- Иерархия памяти
- Жёсткие диски
- Оптические диски
- Передача данных

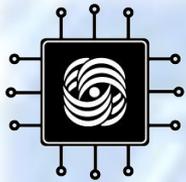


Иерархия памяти

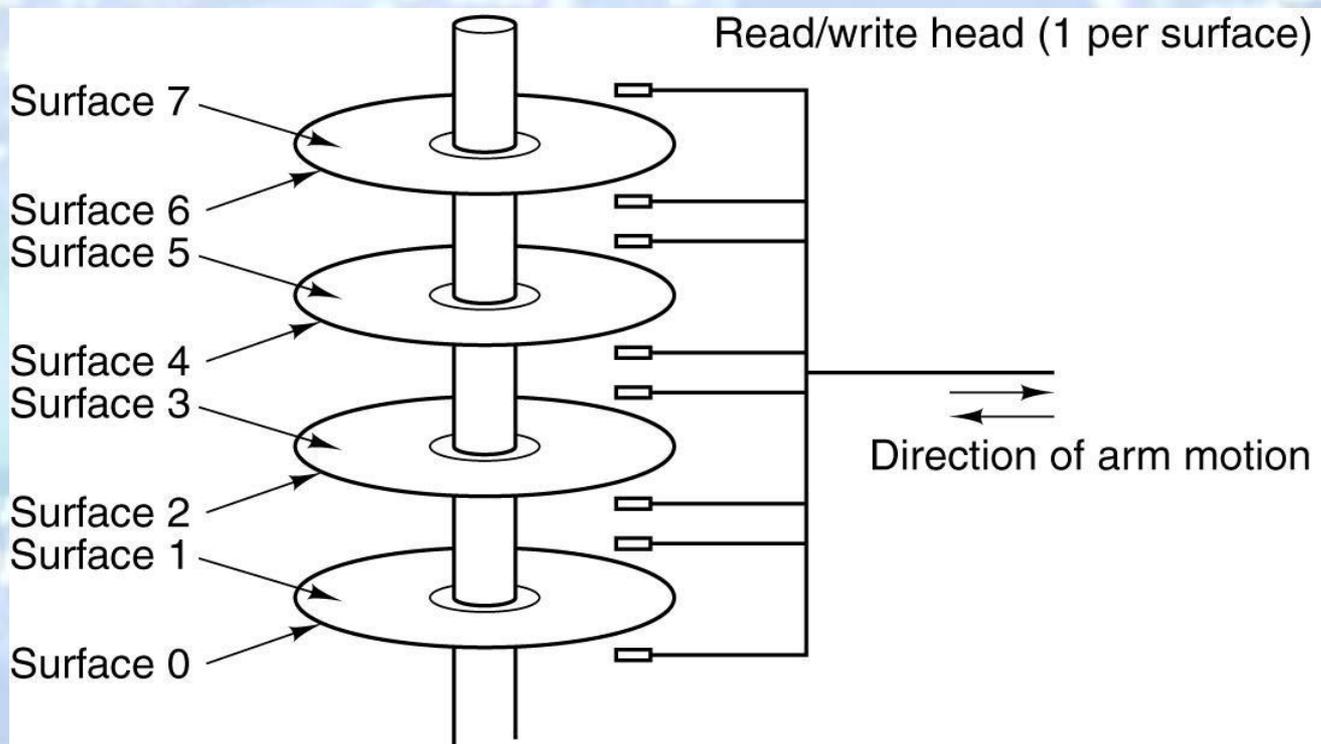


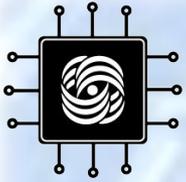
Жёсткие Диски



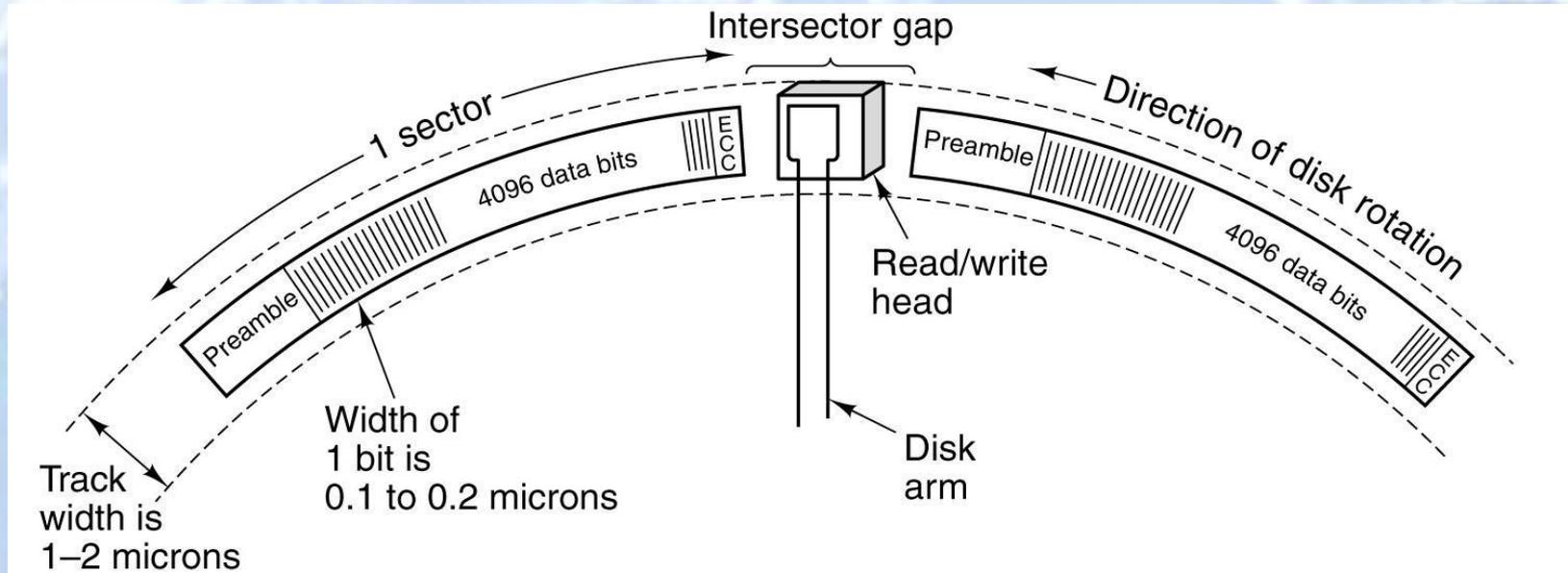


Устройство жёстких дисков

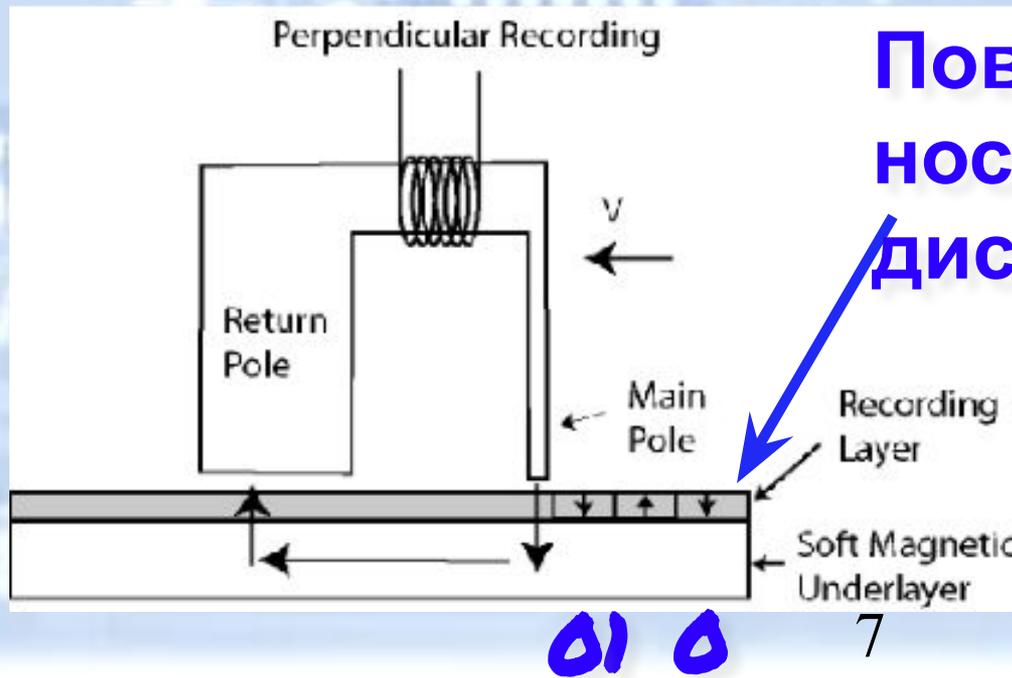
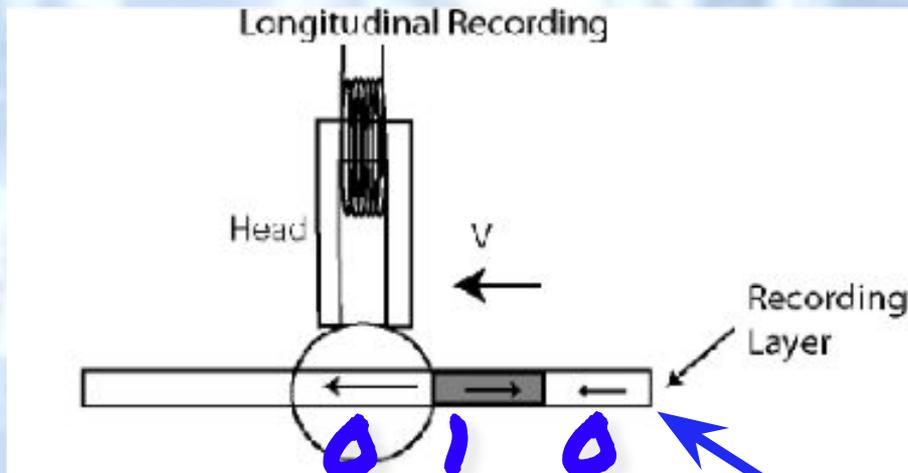
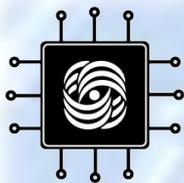




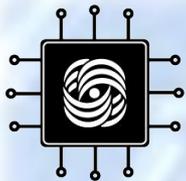
Устройство жёстких дисков



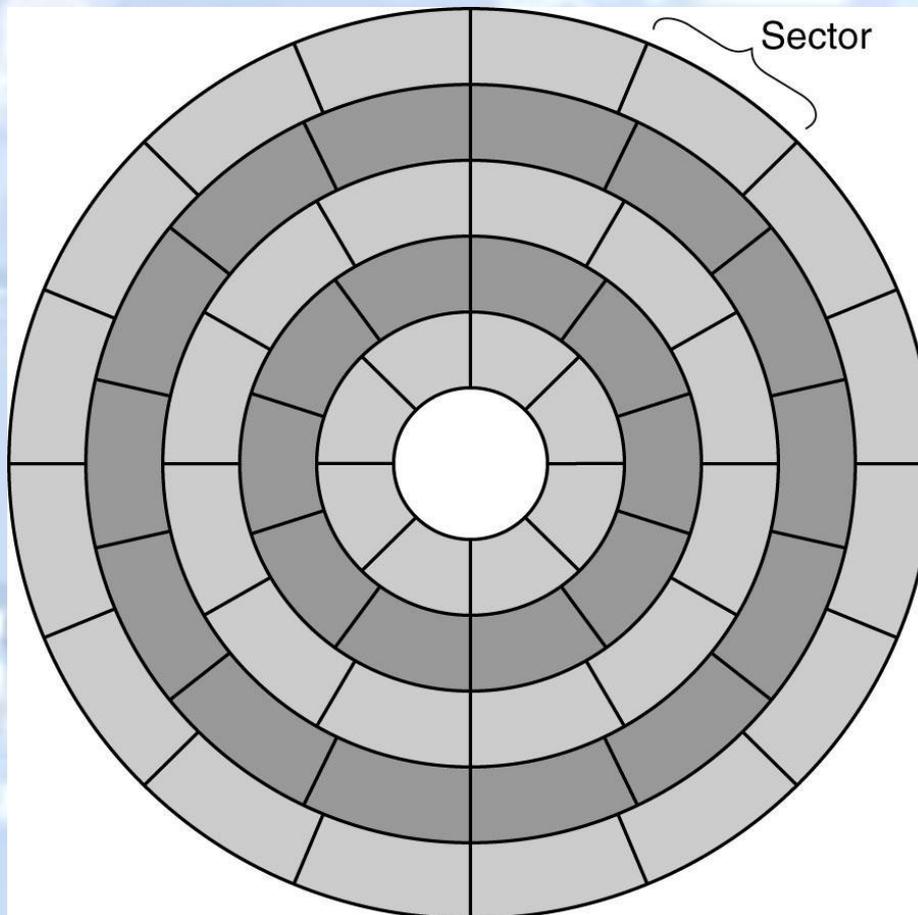
Жёсткие Диски (2)



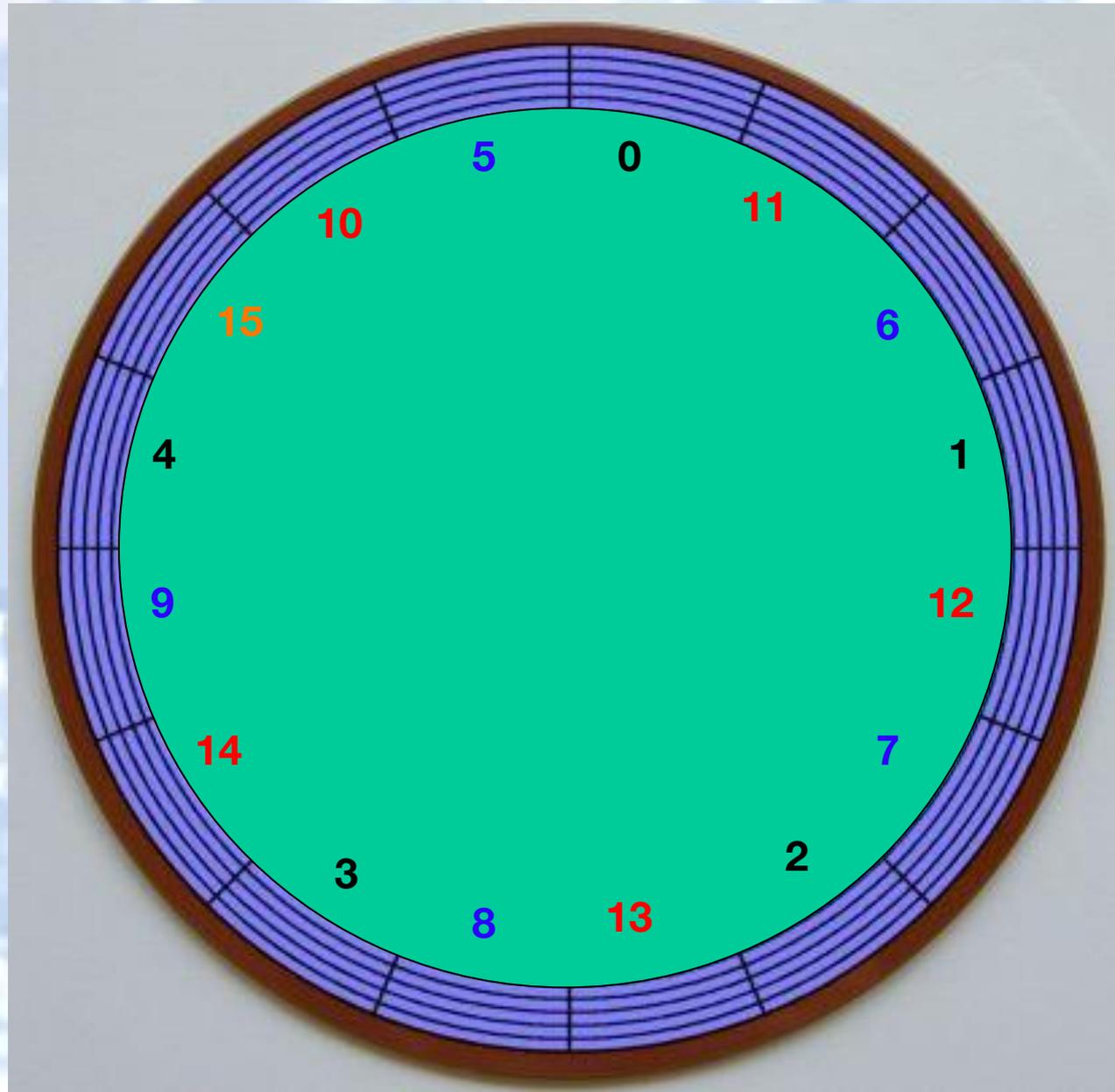
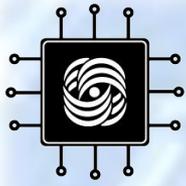
Поверх
ность
диска

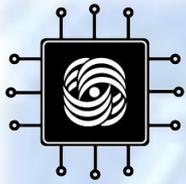


Сектора



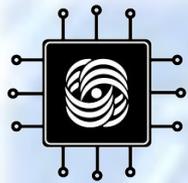
Разбиение ОС





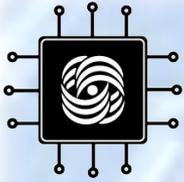
Характеристики

- Интерфейс
- Ёмкость
- Физический размер
- Скорость вращения
- Надёжность
- Количество операций ввода/вывода
- Потребление энергии
- Уровень шума
- Сопротивляемость ударам
- Скорость передачи данных



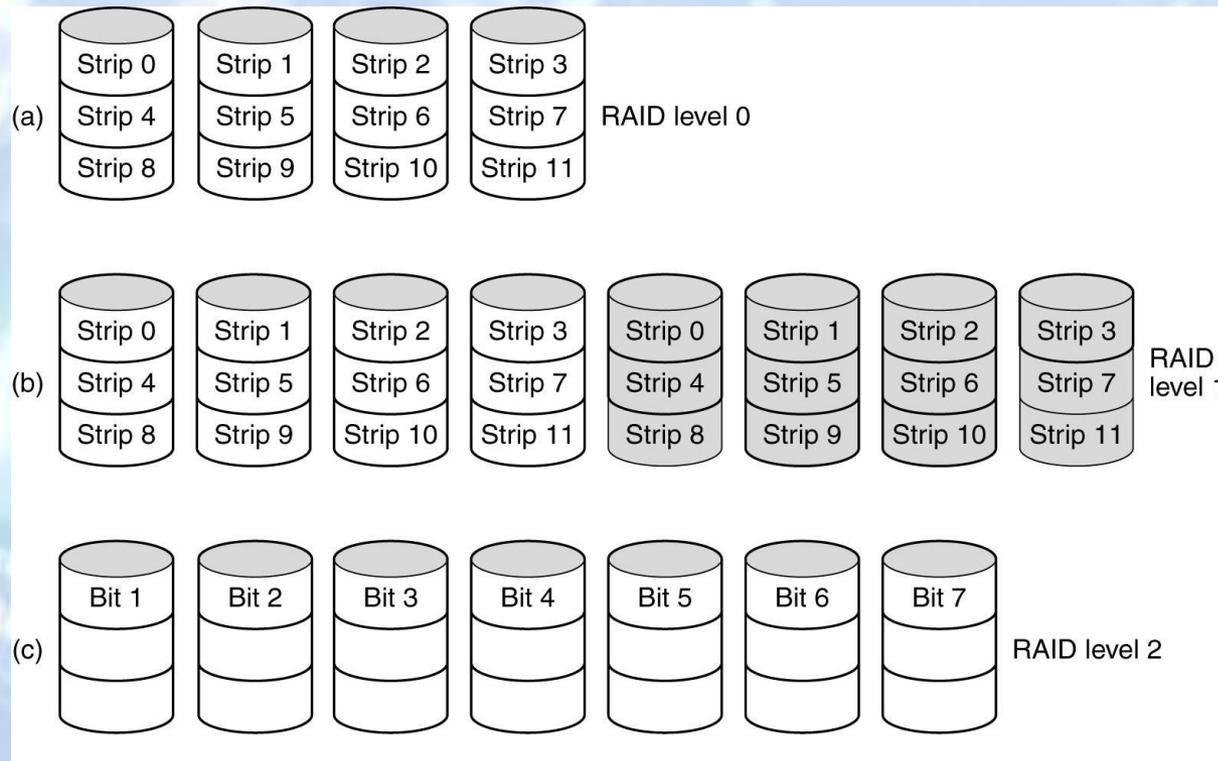
Первый винчестер RAMAC





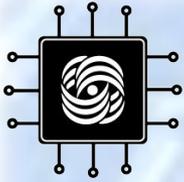
RAID (1)

Redundant **A**rray of **I**nexpensive **D**isks



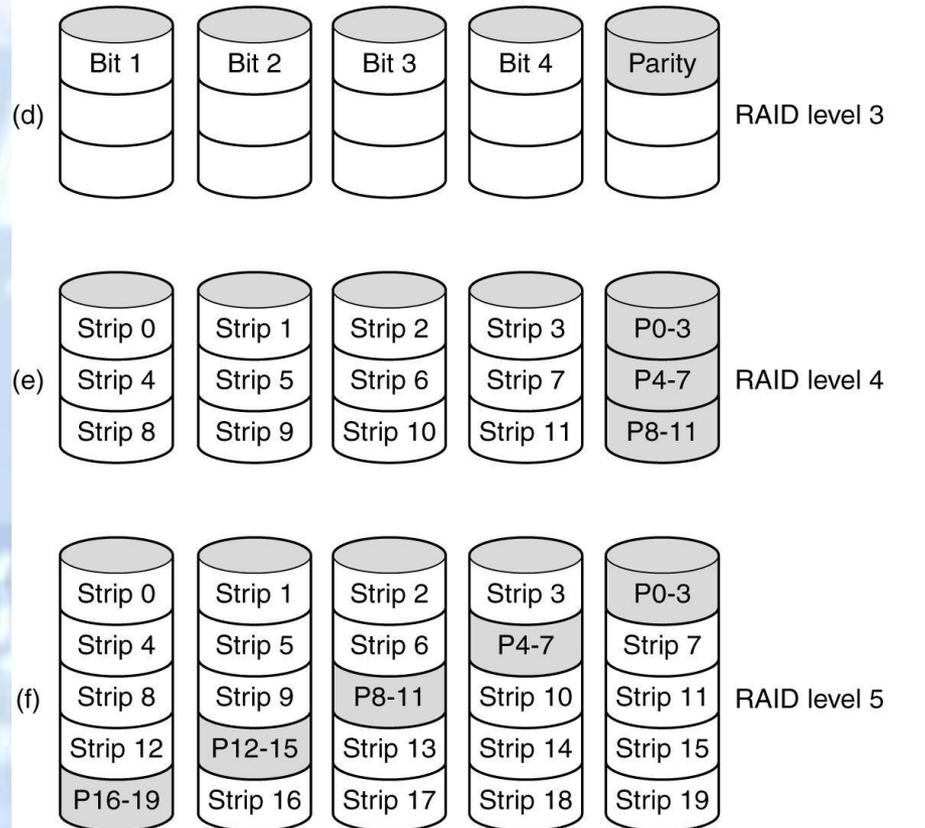
RAID levels 0 through 2.

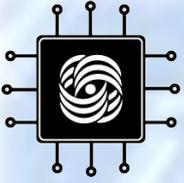
Backup and parity disks are shown shaded.



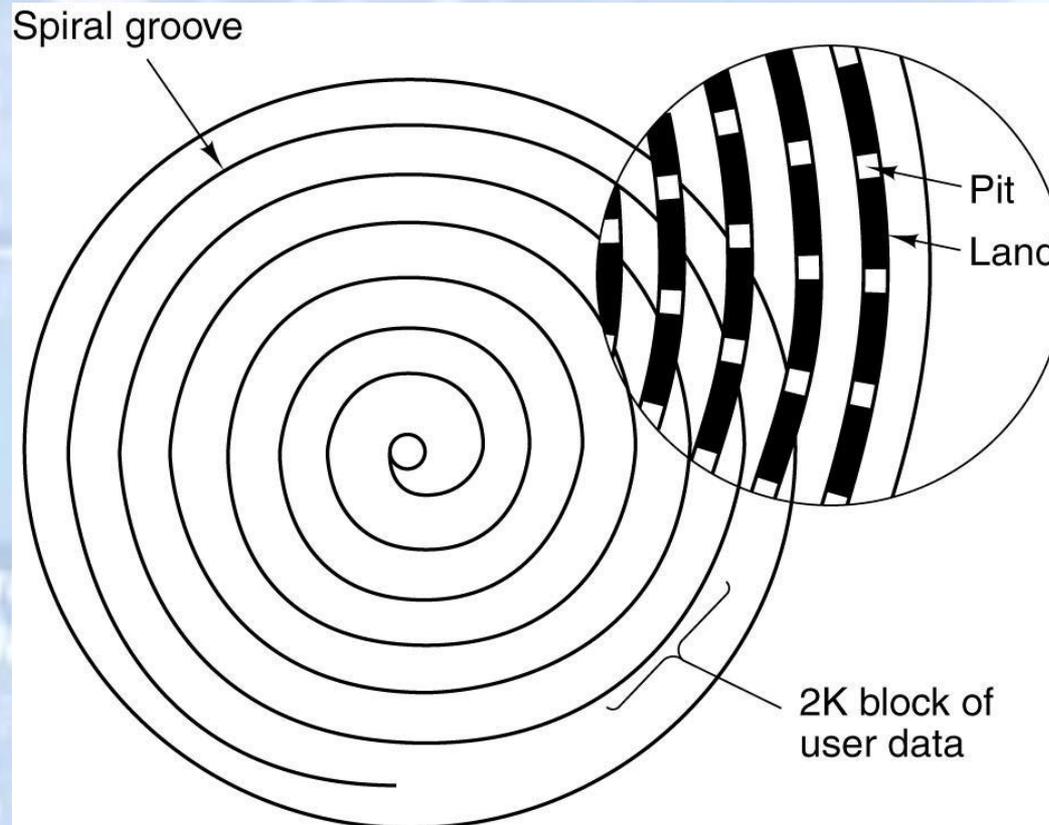
RAID (1)

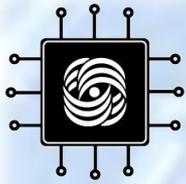
Redundant Array of Inexpensive Disks



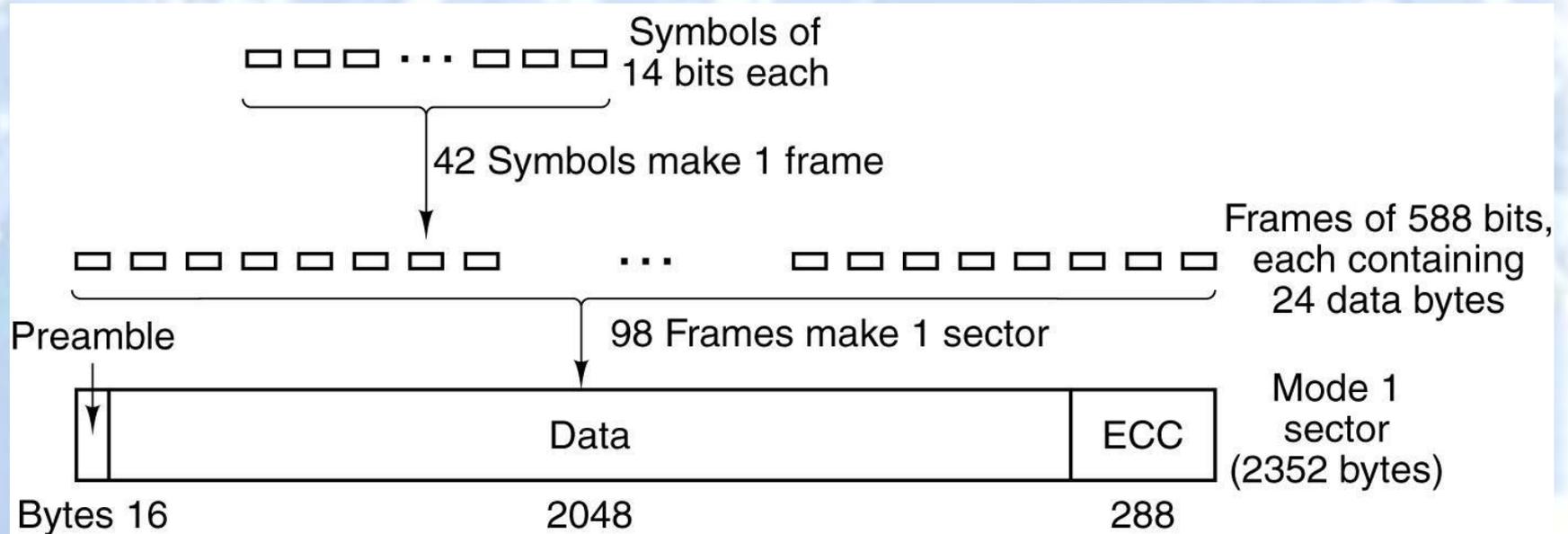


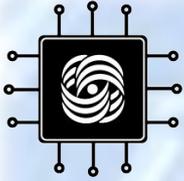
CD-ROMs (1)



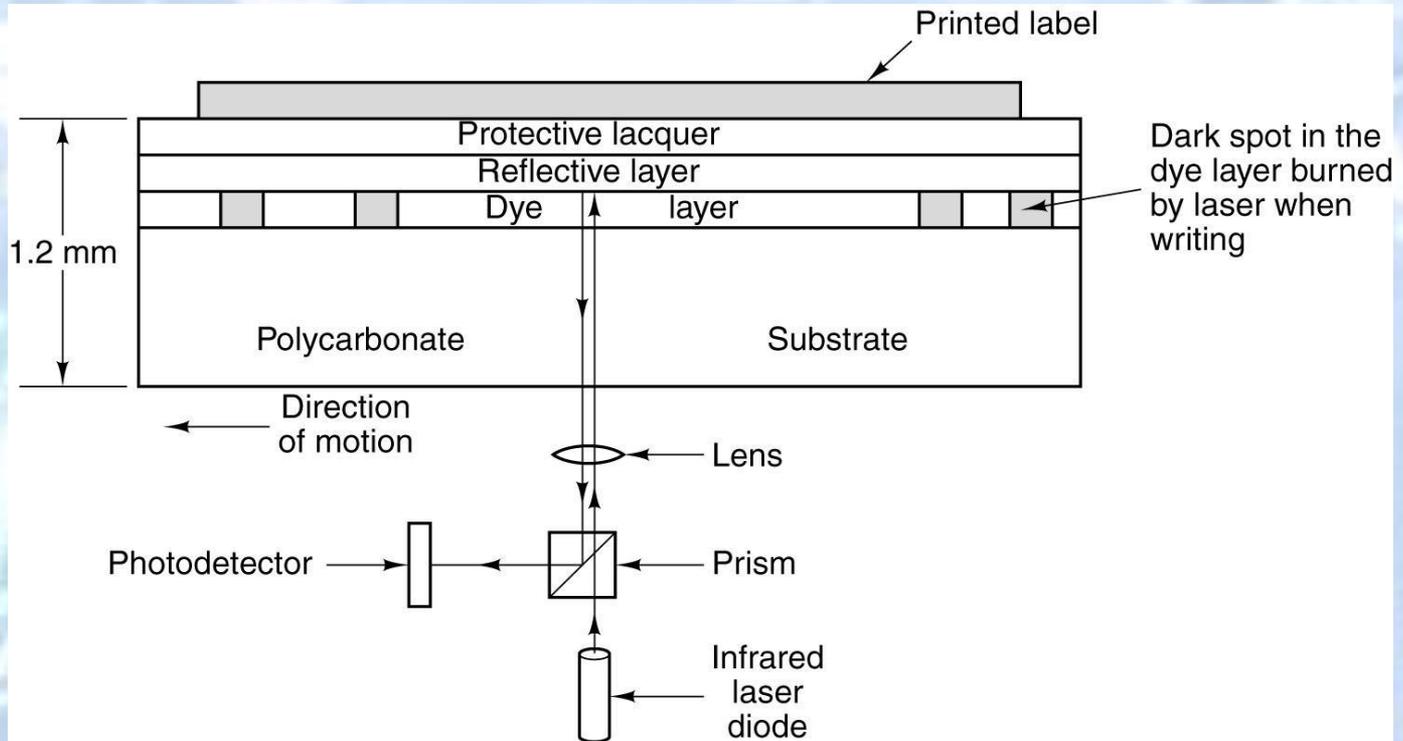


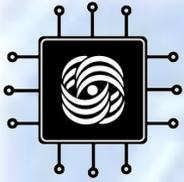
CD-ROMs (2)



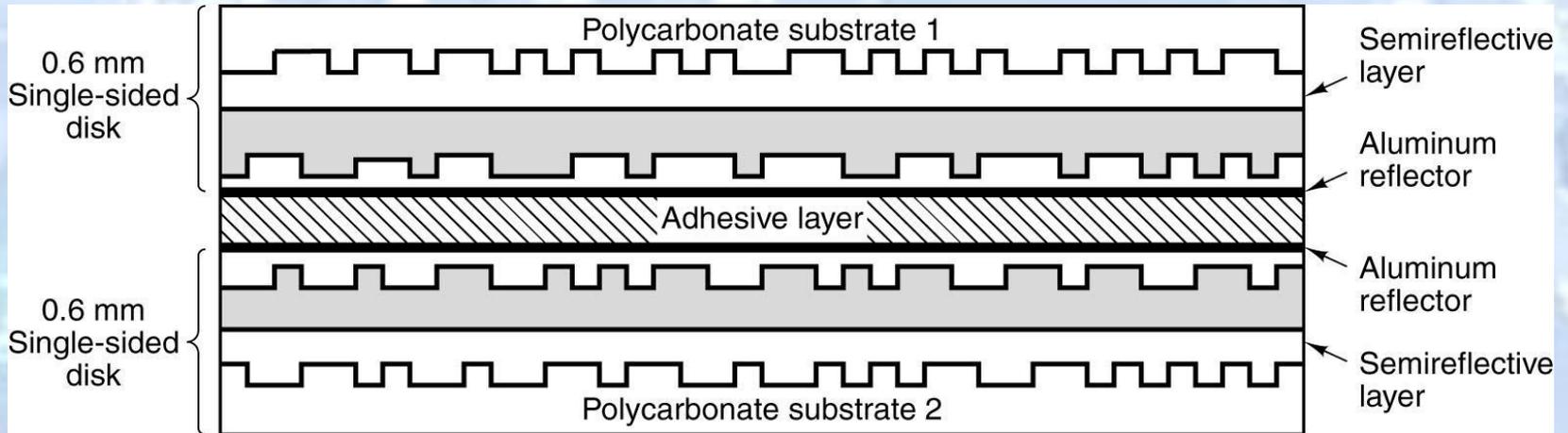


CD-R

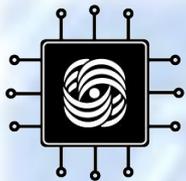




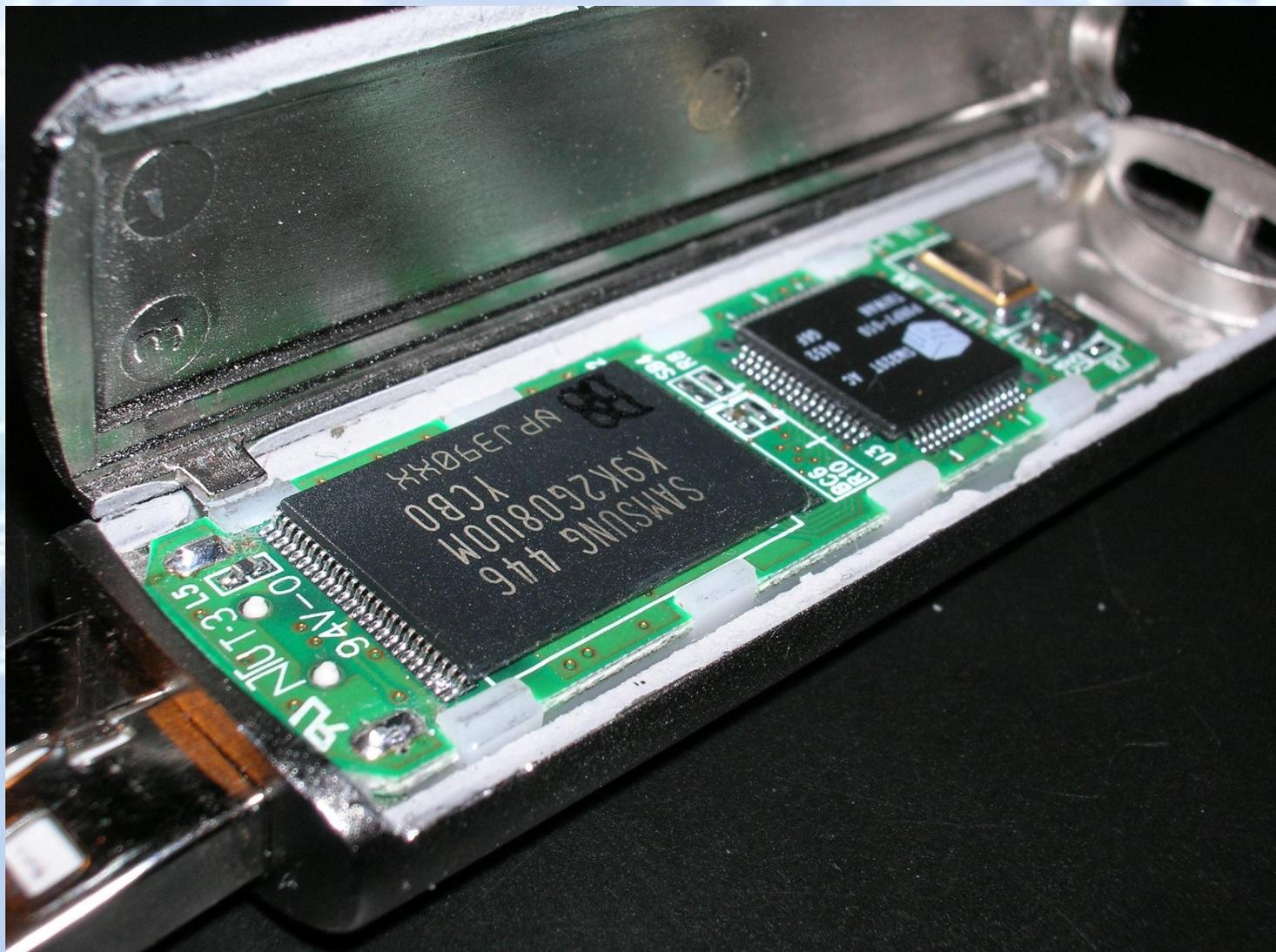
DVD

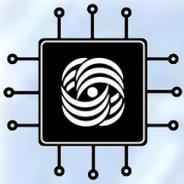


Двусторонний, dual layer DVD диск

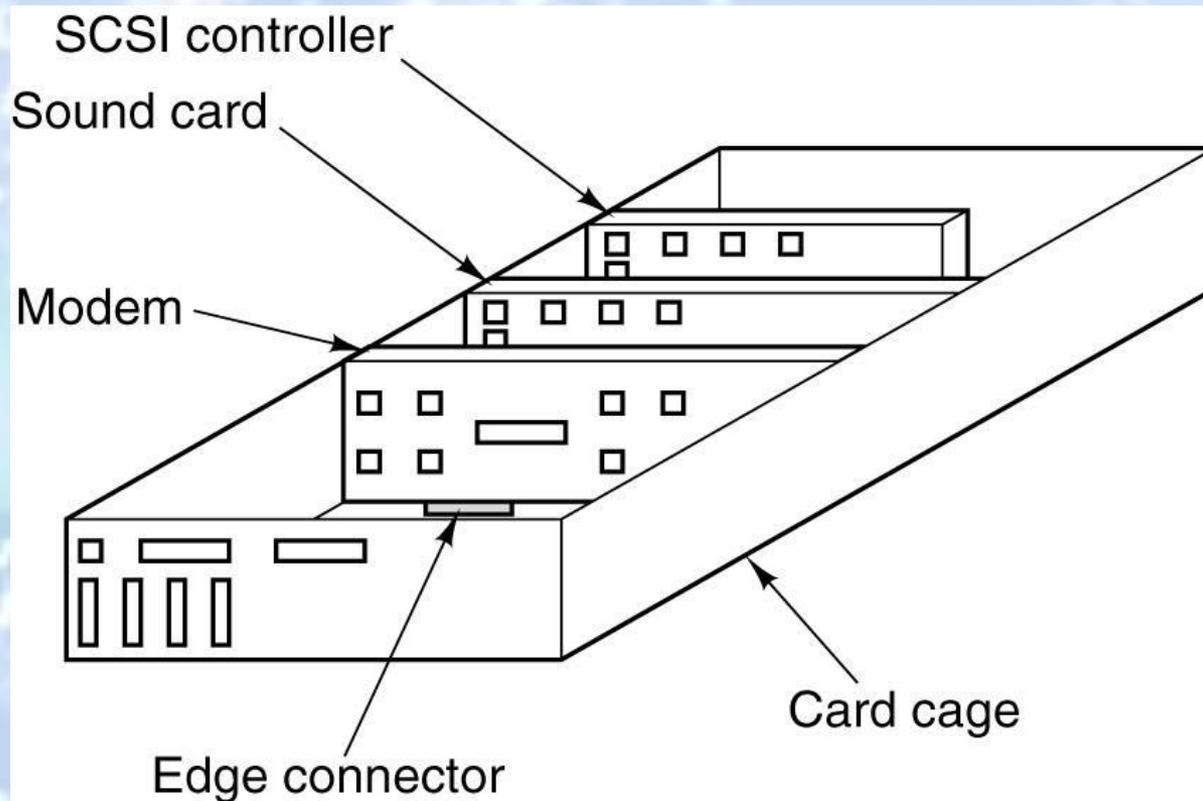


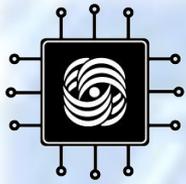
Флэш-память



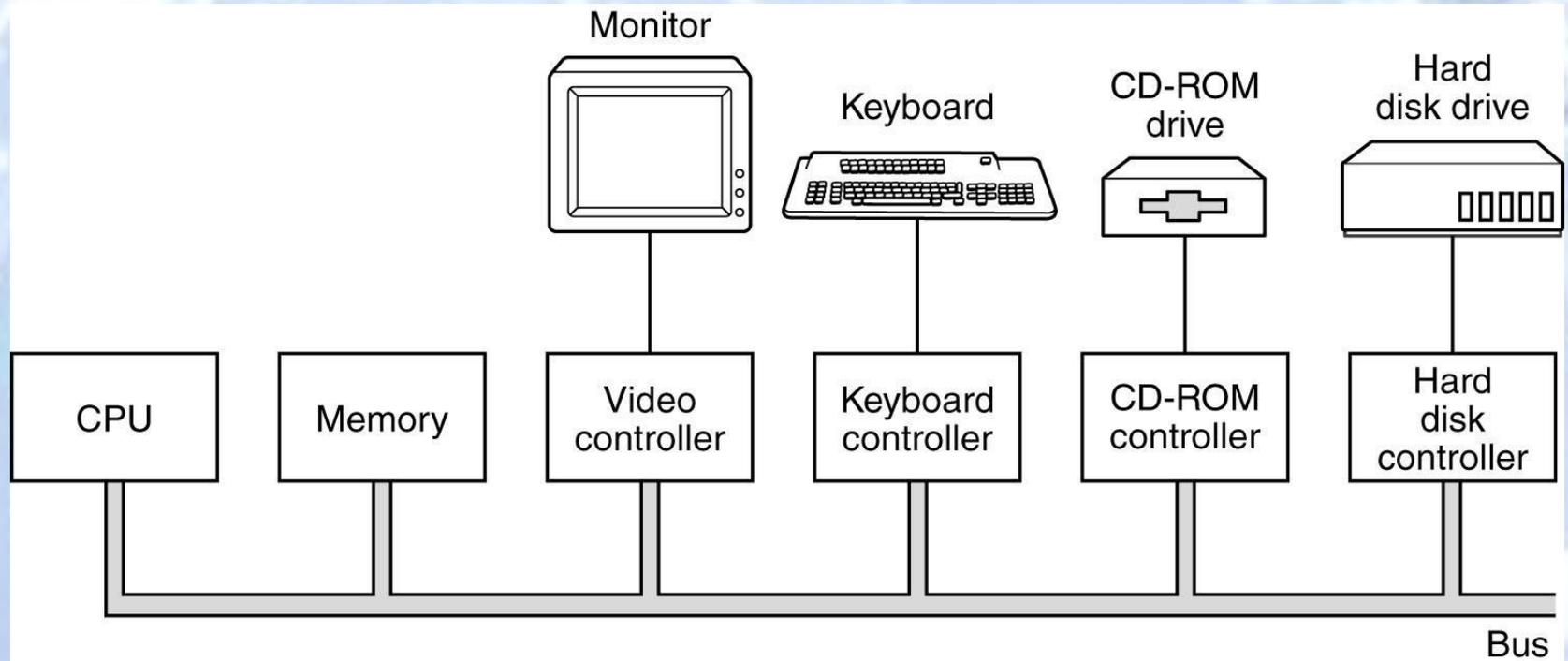


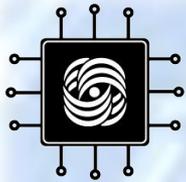
Ввод/Вывод Шины (1)





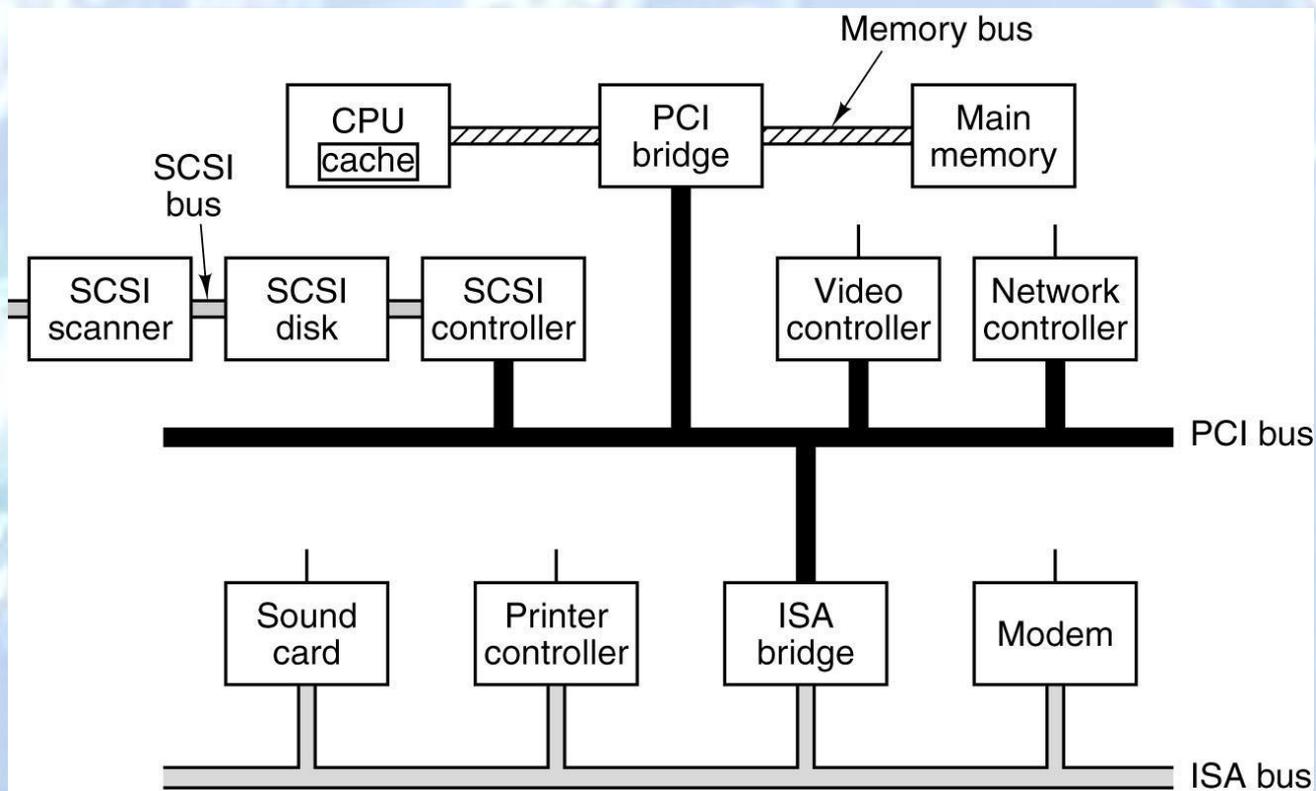
Input/Output Шины (2)

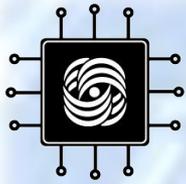




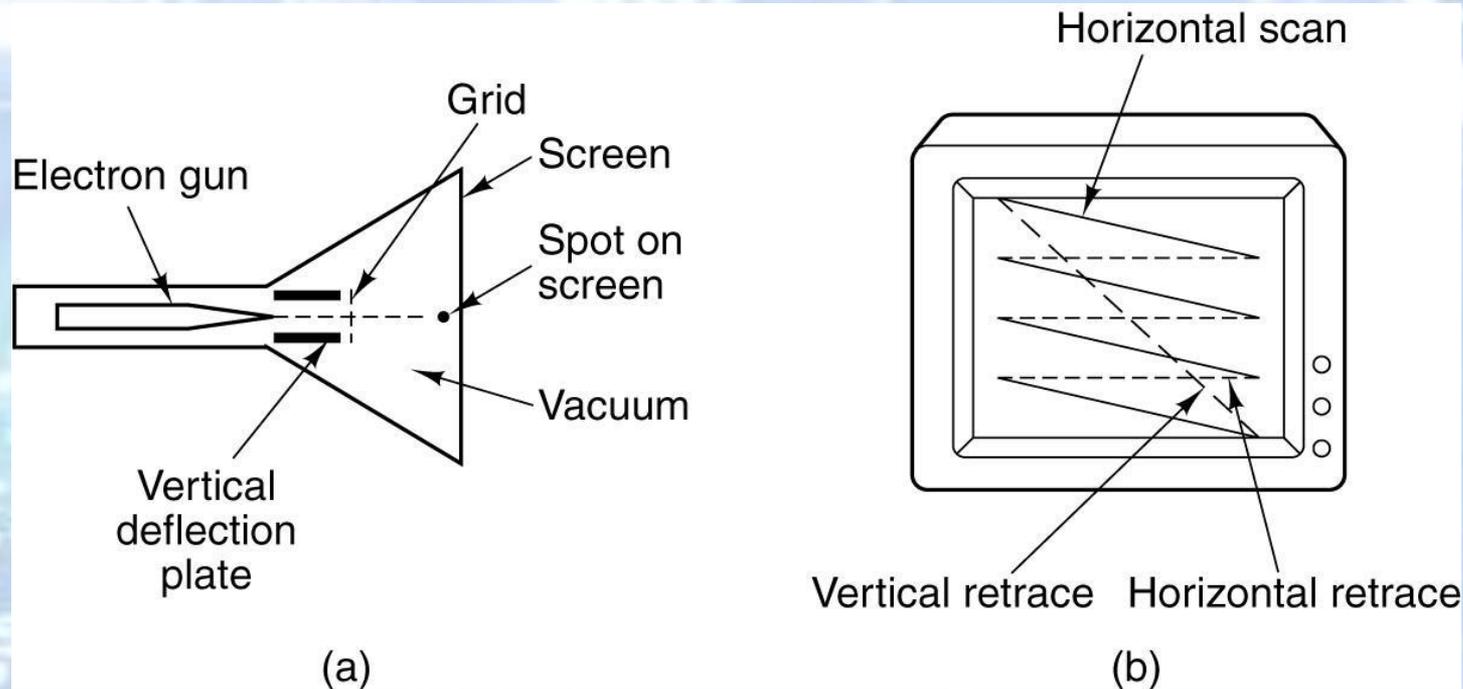
Input/Output

Шины (3)

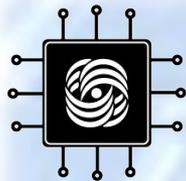




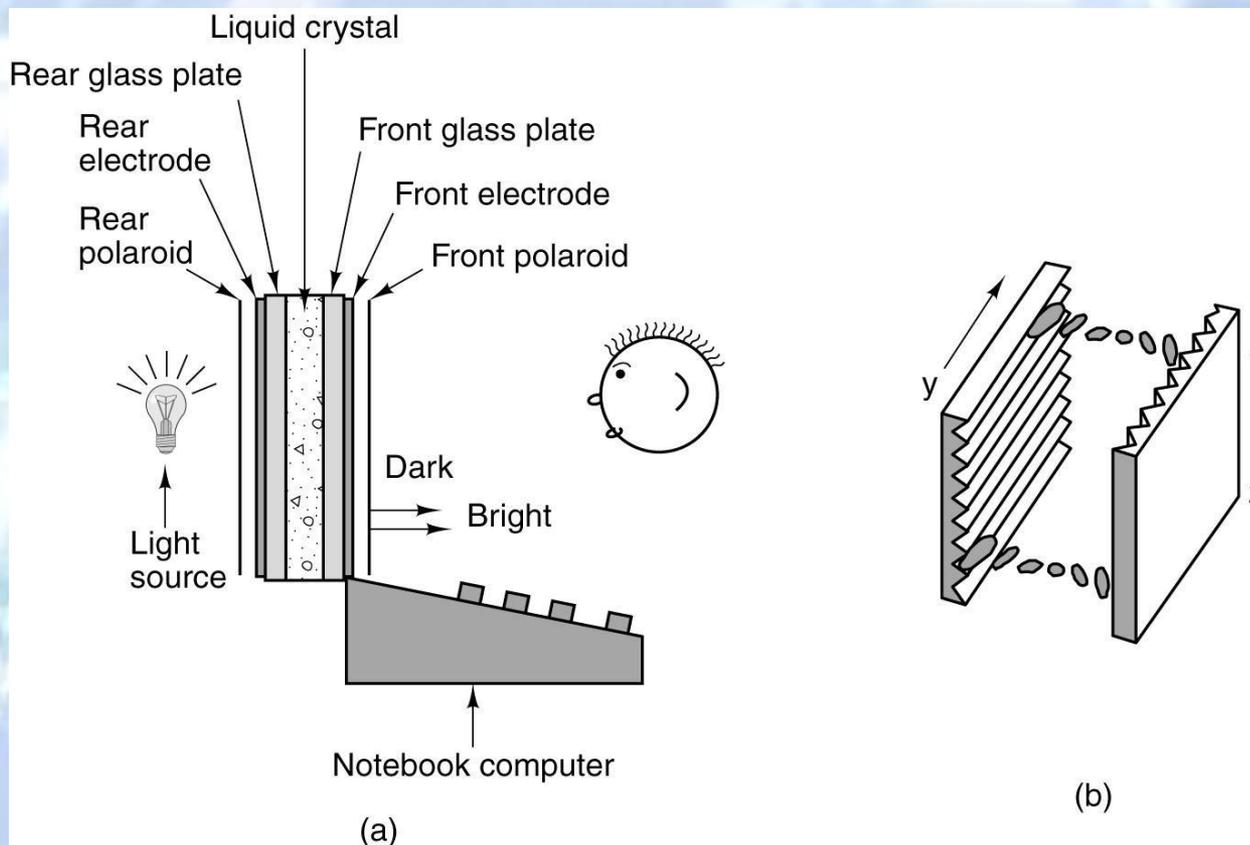
ЭЛТ Мониторы



- (a) Поперечное сечени ЭЛТ
- (b) Схема развёртки

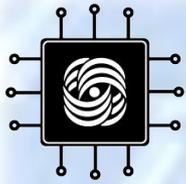


LCD Мониторы

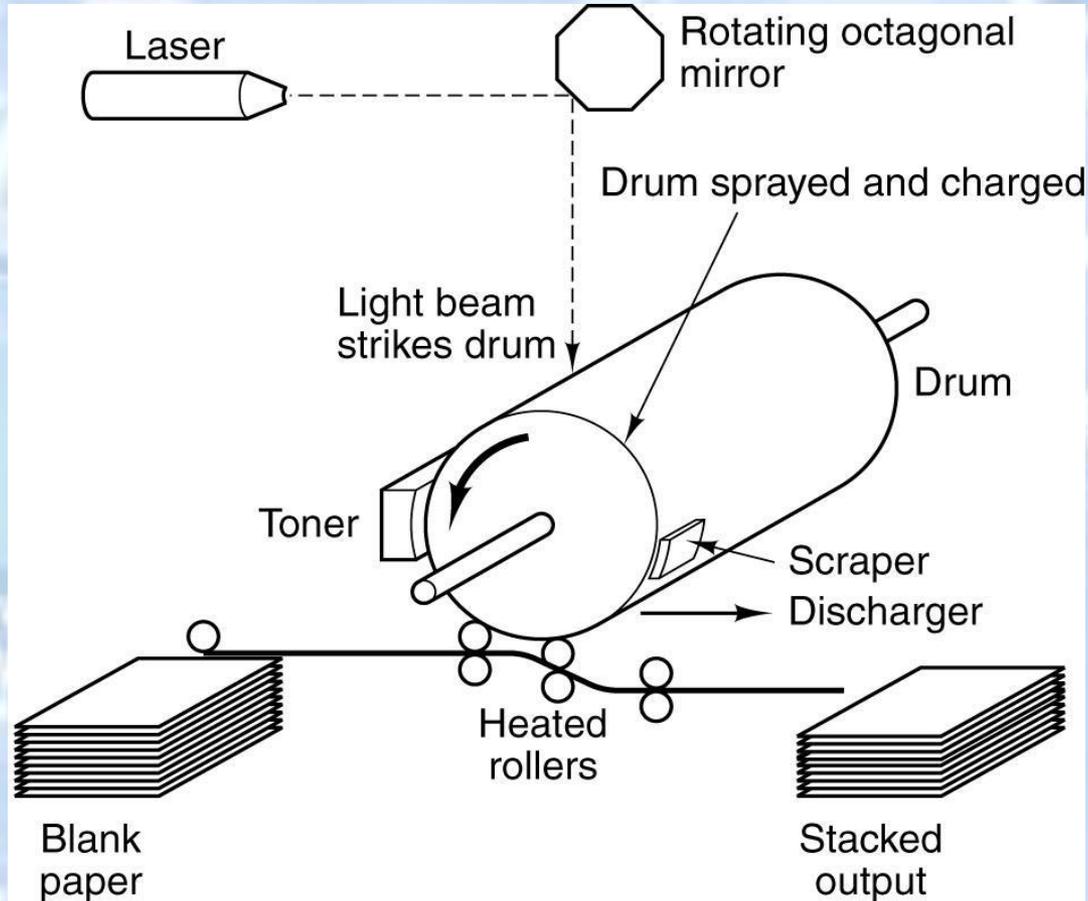


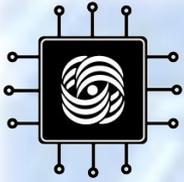
(a) Структура LCD экрана.

(b) Желобки на передней и задней пластинах.

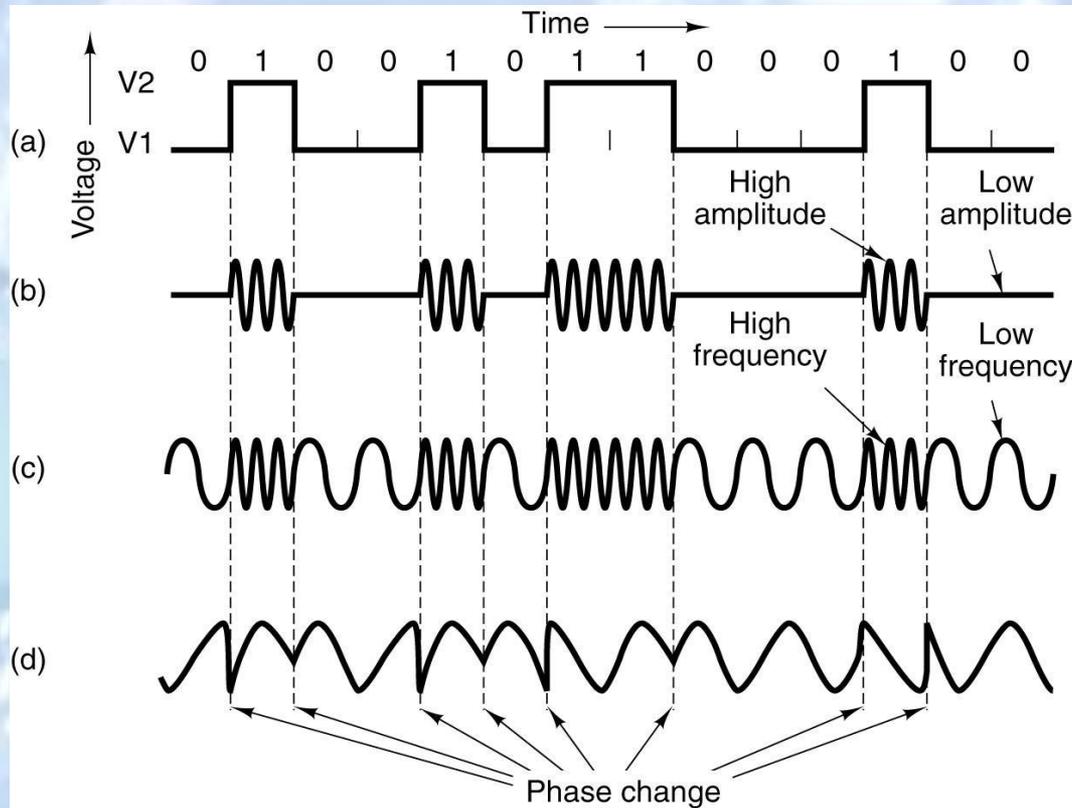


Принтеры

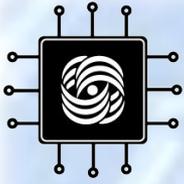




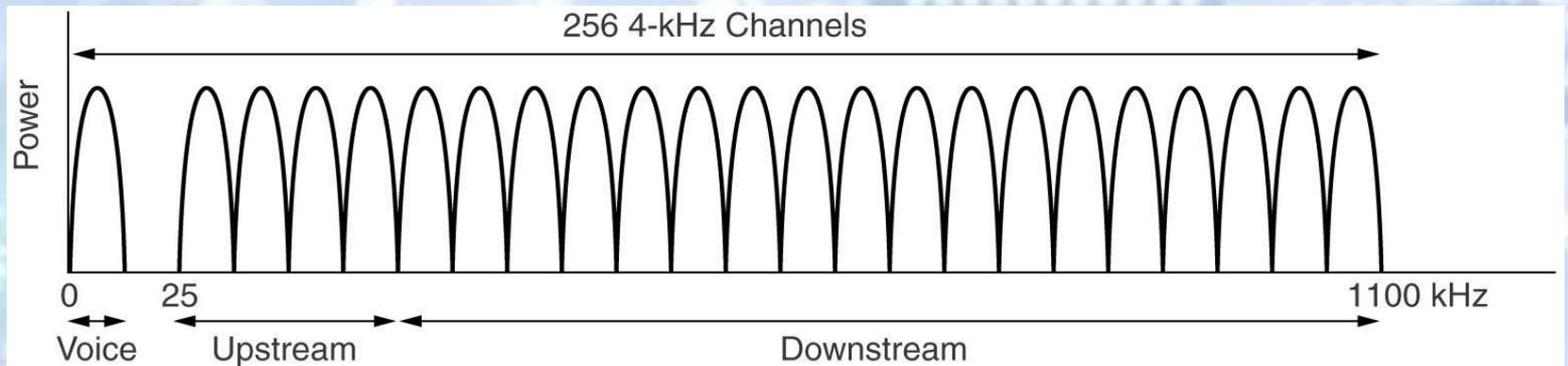
Передача данных

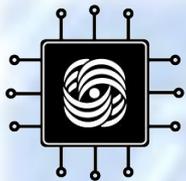


- (a) Двухуровневый сигнал.
- (b) Амплитудная модуляция
- (c) Частотная модуляция

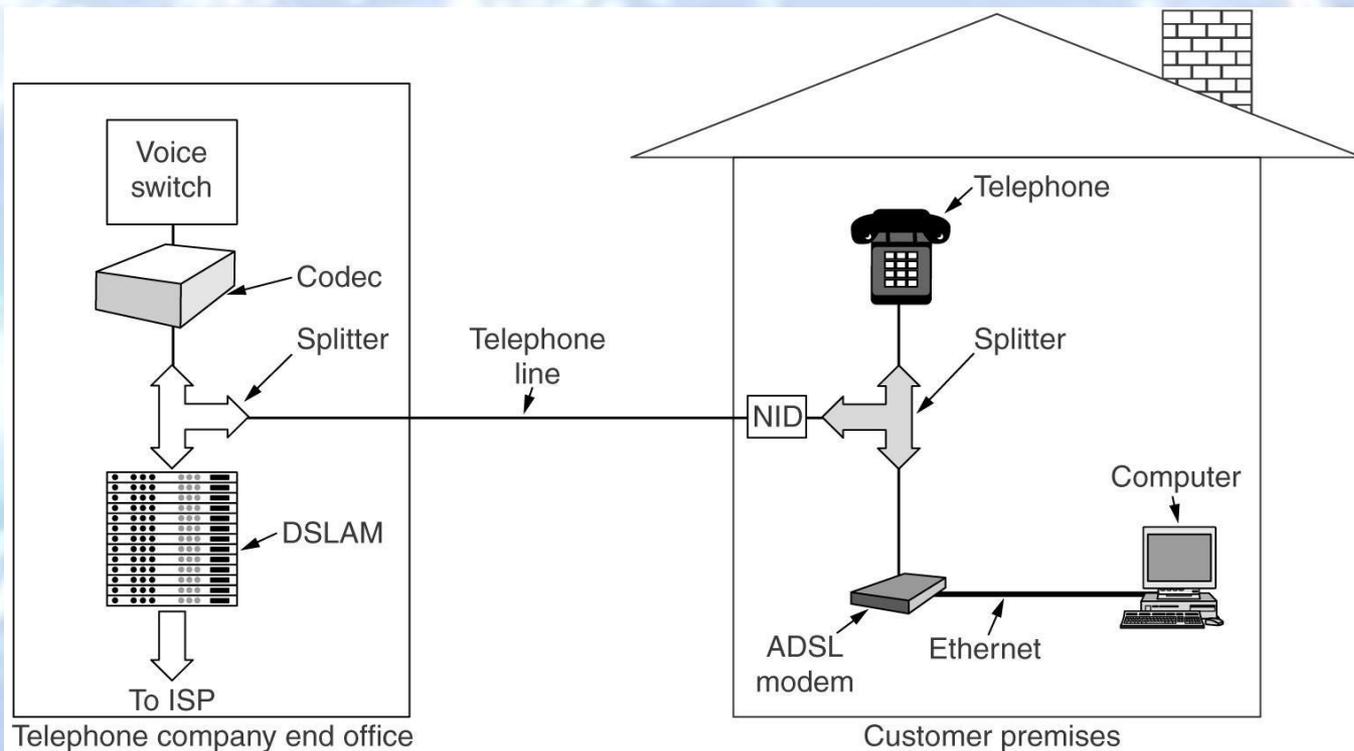


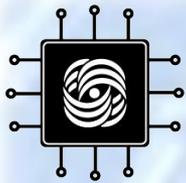
ADSL



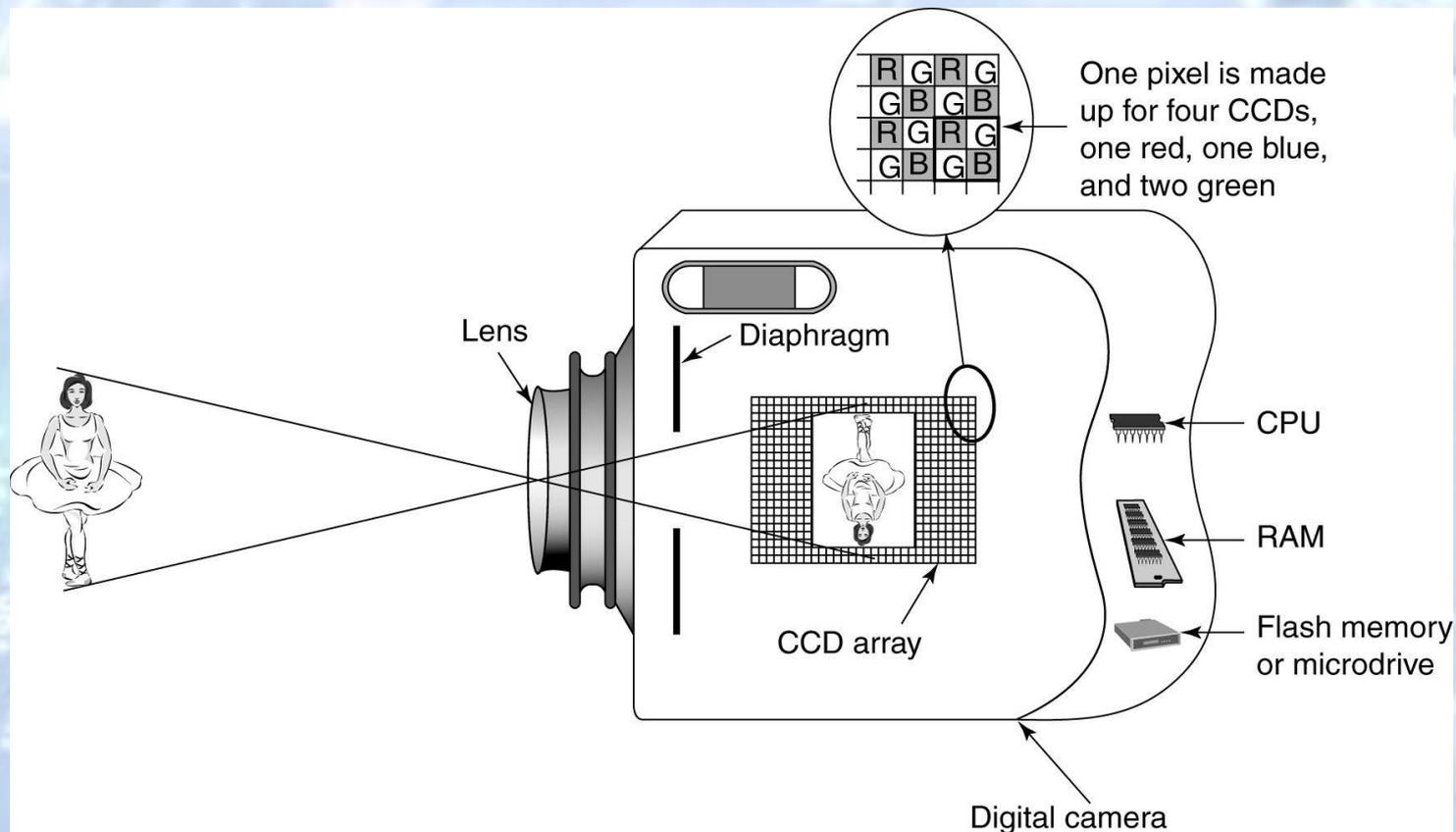


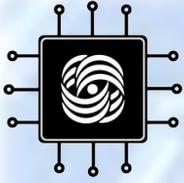
Подключение к сети



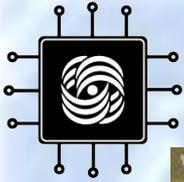


Цифровые Камеры



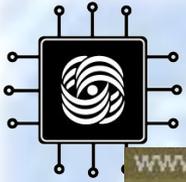


Спасибо за внимание!



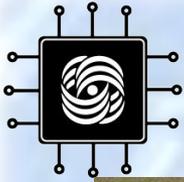
RAID





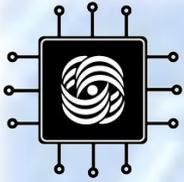
RAID





RAID





RAID

