UNIVERSIDAD DE Belgrano

BUENOS AIRES - ARGENTINA

ORGANIZACION DE COMPUTADORAS

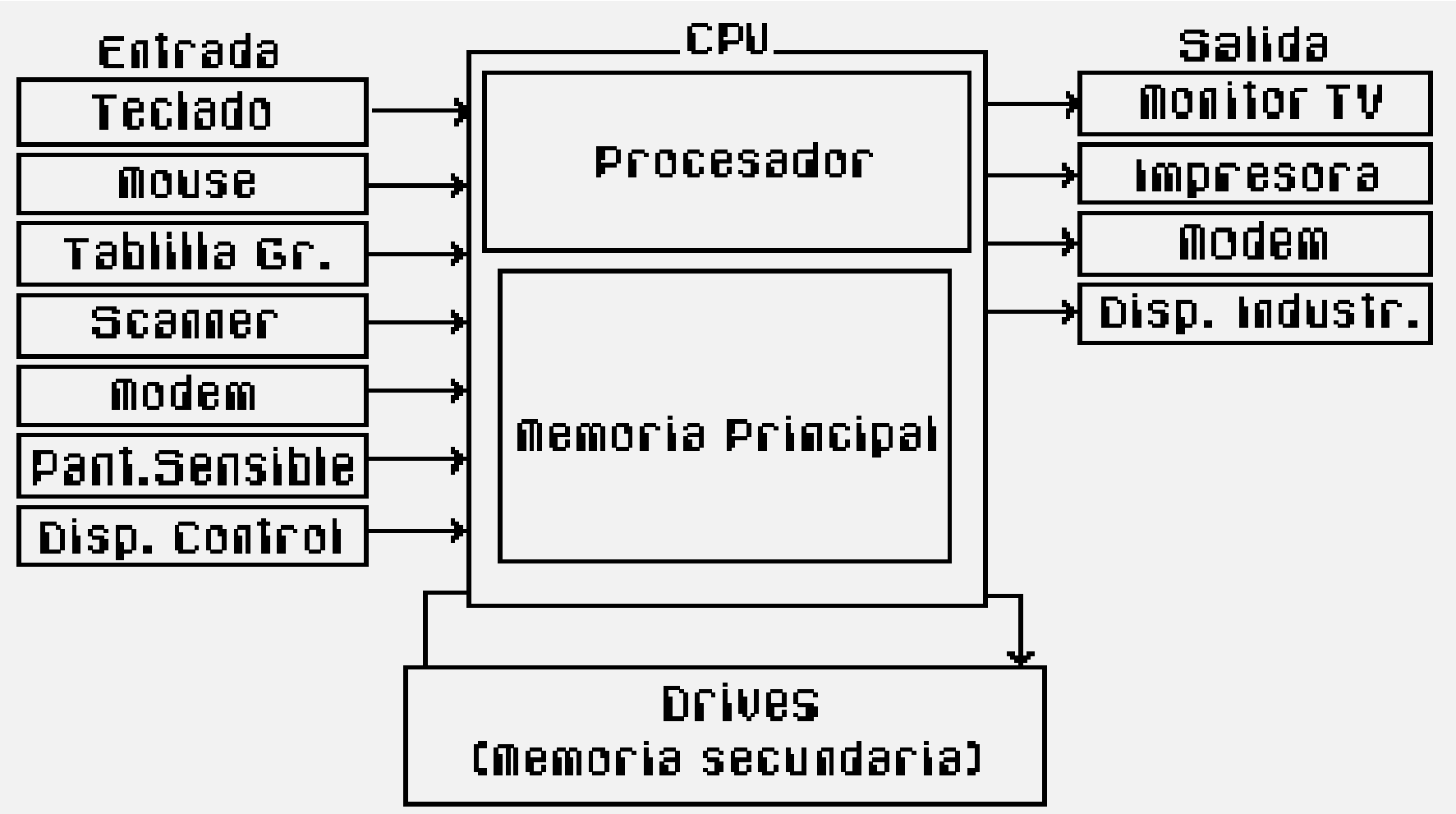
UNIDAD 5

Periféricos

(501-560)

ING. AGUILERA SERGIO OMAR

CLASIFICACION DE LOS PERIFERICOS

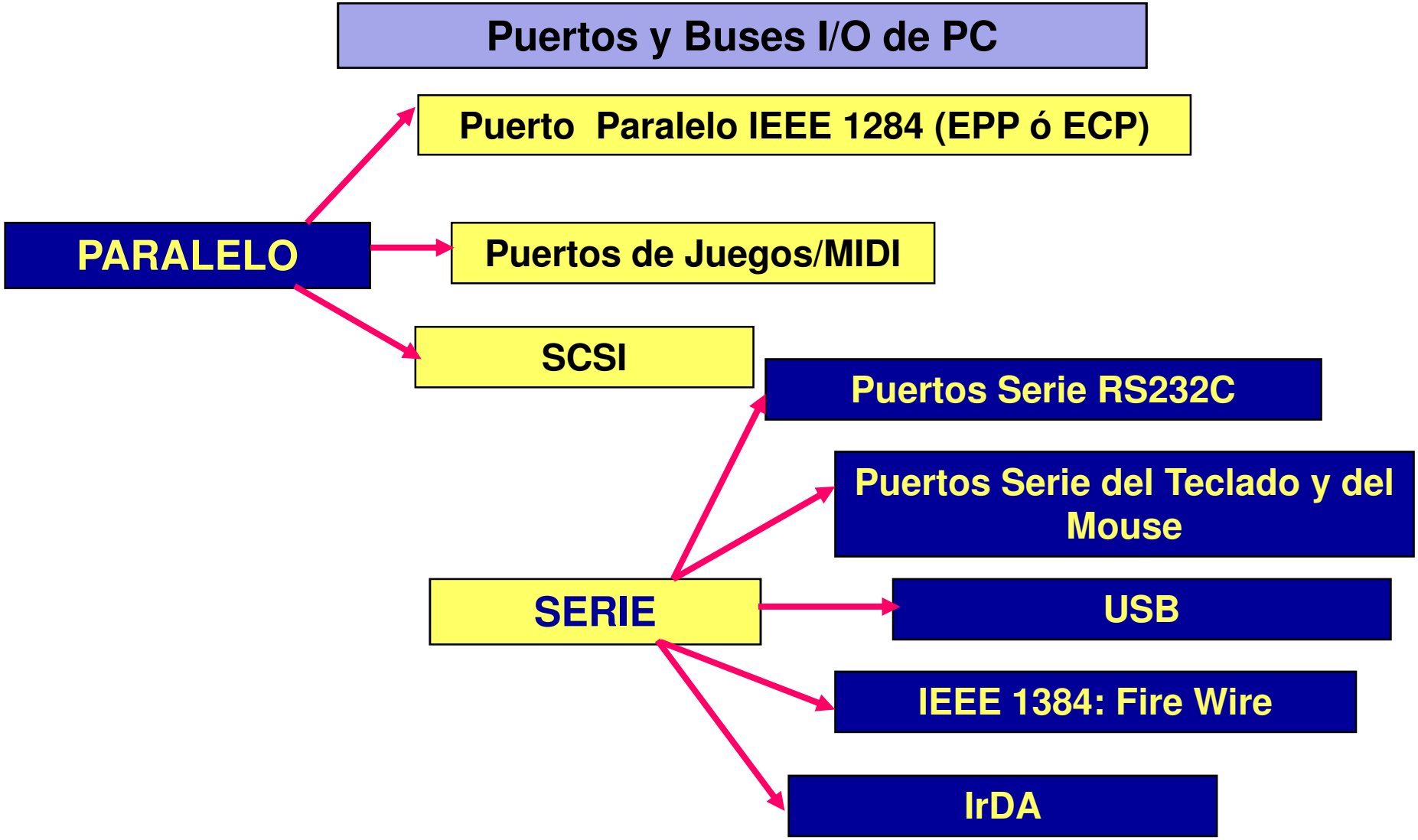


Comparación de puertos y buses de E/S de una PC

Nombre del puerto o bus	Velocidad de transferencia máxima
USB 1.0	12 Mbps (1,5 MBps)
USB 1.1.	12 Mbps (1,5 MBps)
USB 2.0 (Hi-Speed USB)	100 Mbps a 480 Mbps (12,5 MBps a 60 MBps)
SCSI	40 Mbps a 5120 Mbps (5 MBps a 640 MBps)|
IEEE 1394-1995 (FireWire)	100 a 400 Mbps (12,5 MBps a 50 MBps)
IEE 1394a-2000	100 a 400 Mbps (12,5 MBps a 50 MBps)
IEE 1394b	800 Mbps a 3200 Mbps (100 MBps a 400 MBps)
Puerto Paralelo IEEE 1284 (Modo Nibble, Unidireccional)	400 Kbps a 2 Mbps (50 KBps a 250 KBps)

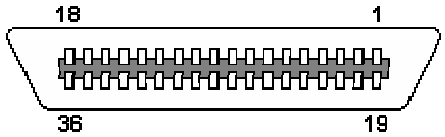
Comparación de puertos y buses de E/S de una PC

Nombre del puerto o bus	Velocidad de transferencia máxima
Puerto Paralelo IEEE 1284 (Modo Byte, Unidireccional)	1,2 Mbps a 4 Mbps (150 KBps a 500 KBps)
Puerto Paralelo IEEE 1284 (Modo Compatibilidad Unidireccional)	1,2 Mbps a 4 Mbps (150 KBps a 500 KBps)
Puerto Paralelo IEEE 1284 Modo ECP (*Enhanced Capabilities Port-* Puerto de Capacidades Mejoradas, Bidireccional)	6,4 Mbps a 16 Mbps (800 KBps a MBps)
Puerto Paralelo IEEE 1284 Modo EPP (*Enhanced Parallel Port-* Puerto Paralelo Mejorado, Bidireccional)	6,4 Mbps a 16 Mbps (800 KBps a MBps)
Puerto Series RS-232	110 bps a 921600 bps (115200 Bps)
IrDA	921,6 (Kbps 115,2 KBps)
Fast IrDA (FIR)	4 MBps (32 Mbps)


Puertos y Buses I/O de PC
Puerto Paralelo IEEE 1284 (EPP ó ECP)
PARALELO
Puertos de Juegos/MIDI
SCSI
Puertos Serie RS232C
Puertos Serie del Teclado y del Mouse
SERIE
USB
IEEE 1384: Fire Wire
IrDA

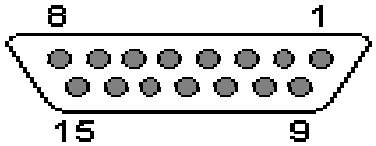
Puertos Paralelos

IEEE1284-B

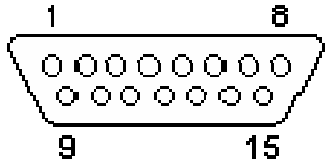


(at the Printer)
36 PIN CENTRONICS FEMALE at the Printer.

PC Gameport

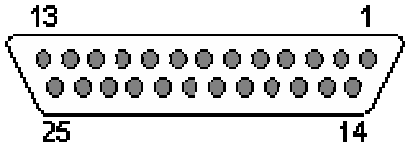


(at the computer)

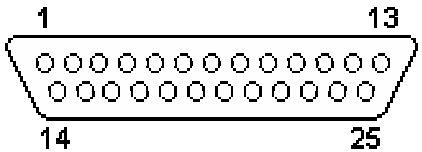


(at the joystick cable)
15 PIN D-SUB FEMALE at the computer.
15 PIN D-SUB MALE at the joystick cable.

SCSI External D-Sub (PC/Amiga/Mac)



(at the controller)

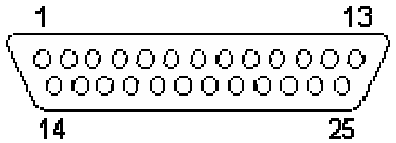


(at the cable)
25 PIN D-SUB FEMALE at the controller.
25 PIN D-SUB MALE at the cable.

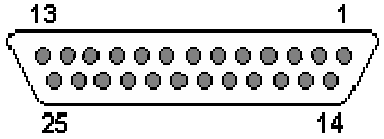
Puertos Series

RS232

Common names: EIA-232D (RS232-D), ITU-TSS (CCITT) V.24/V.28, ISO 2110



(at the DTE)

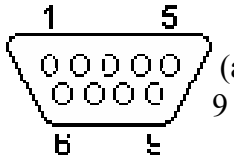


(at the DCE)

25 PIN D-SUB MALE at the DTE (Computer).
25 PIN D-SUB FEMALE at the DCE (Modem).

Serial (PC 9)

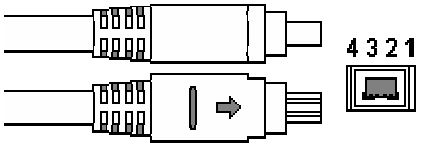
Also known as EIA/TIA 574



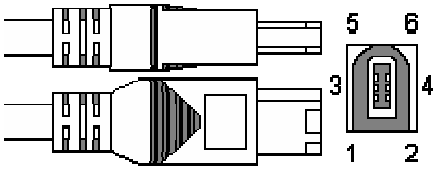
(at the Computer)

9 PIN D-SUB MALE at the Computer.

IEEE1394



(at the Devices)

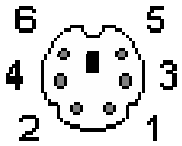


(at the Devices)

4 PIN IEEE1394 FEMALE at the Devices.
6 PIN IEEE1394 FEMALE at the Devices.
Full name IEEE 1394-1995
Also known as FireWire (Apple), iLink (Sony) or Lynx

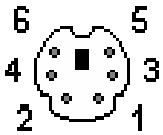
Puertos Series

Keyboard (6 PC, PS/2)



(at the computer)
6 PIN MINI-DIN FEMALE (PS/2 STYLE)
at the computer.

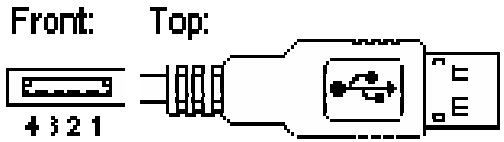
Mouse (PS/2)



(at the computer)
6 PIN MINI-DIN FEMALE (PS/2 STYLE)
at the computer.

Universal Serial Bus (USB)

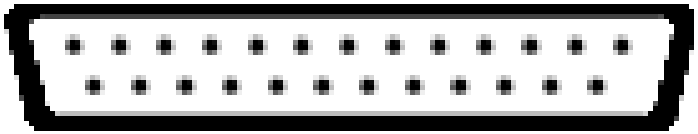
Developed by Compaq, Hewlett-Packard, Intel, Lucent, Microsoft, NEC and Phillips.



USB A (at the Connector)

USB B (at the Connector)
Series "A" plugs are used towards the host system
and series "B" plugs are used towards the USB device.

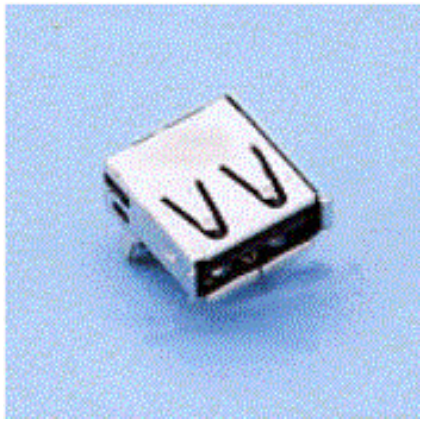
PUERTOS DE CONEXION



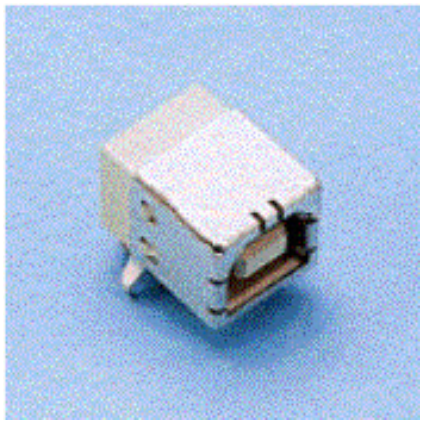
PUERTO SERIE

PUERTO PARALELO

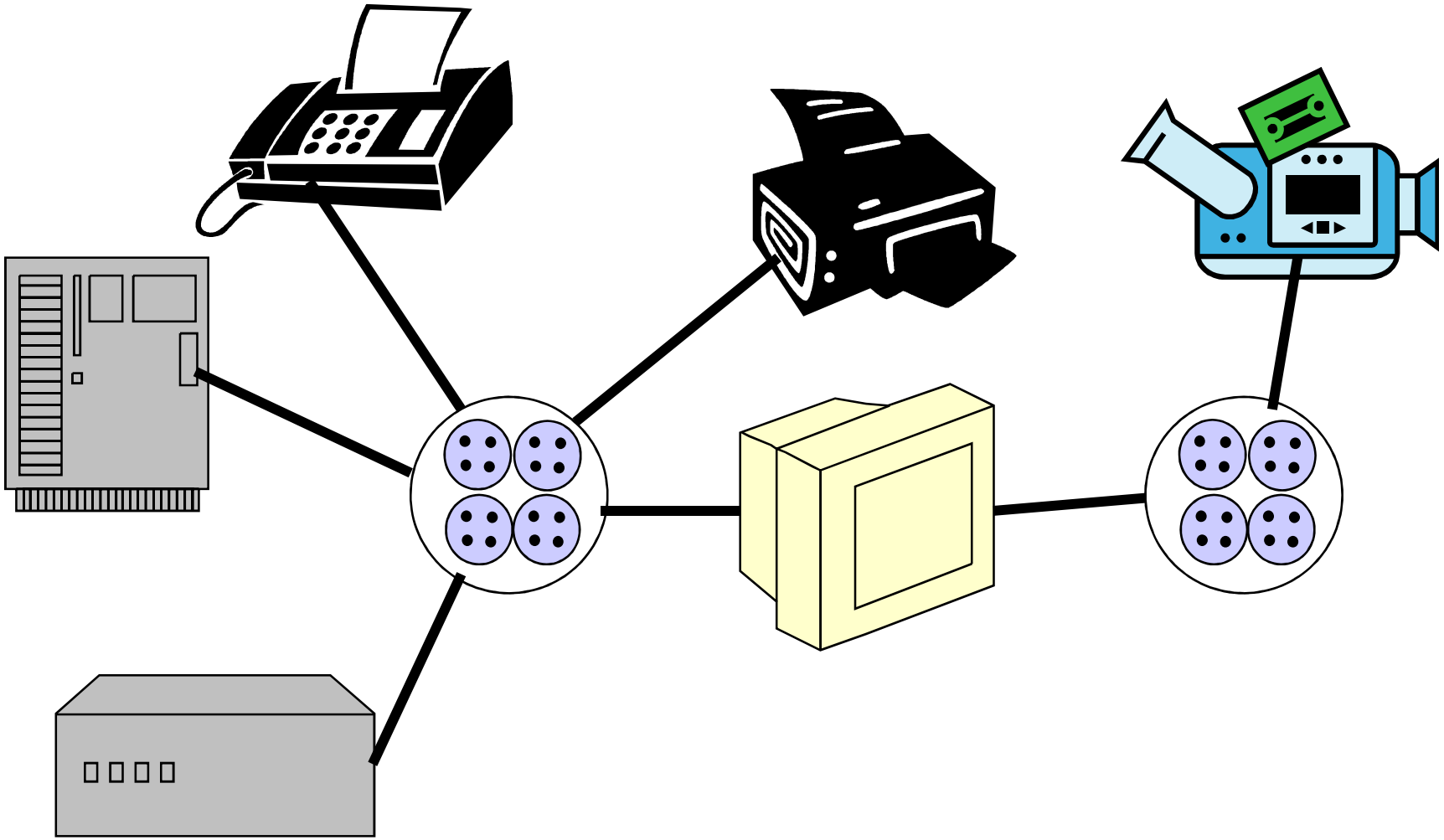
CONECTOR USB SERIE A



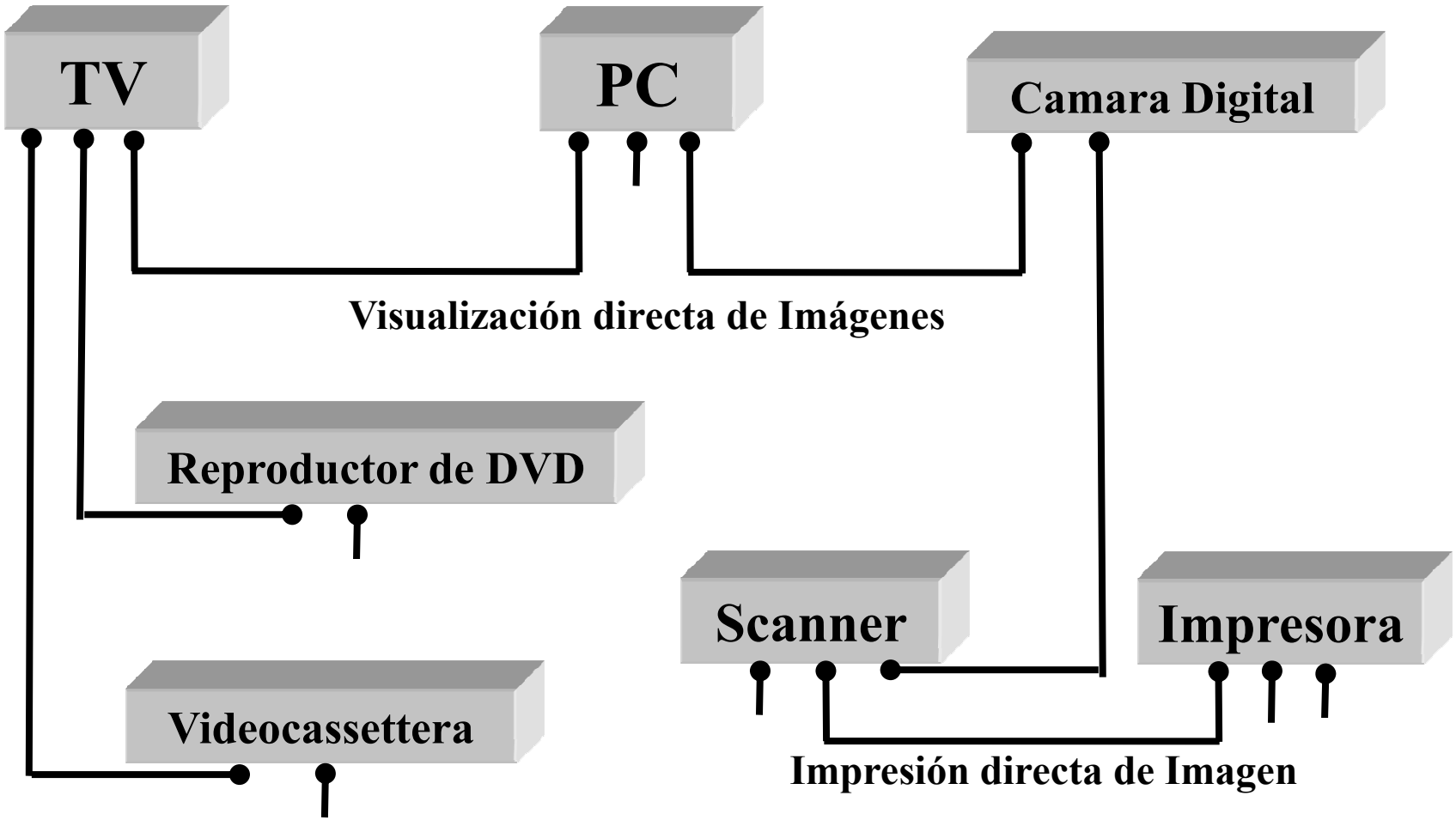
CONECTOR USB SERIE B



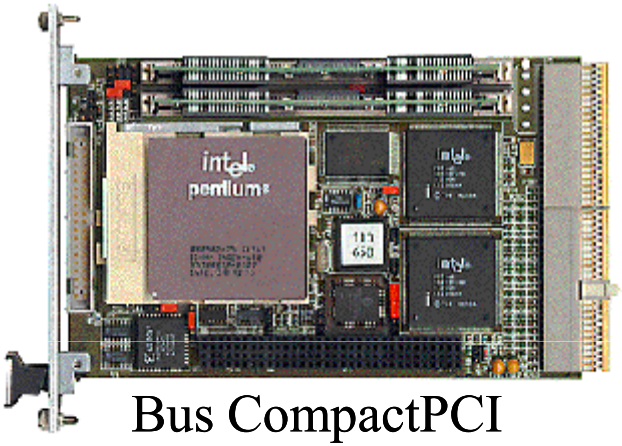
USB (conexión propuesta)



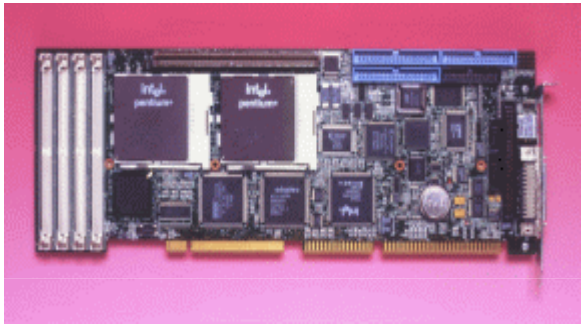
CONEXIÓN CON IEEE 1394



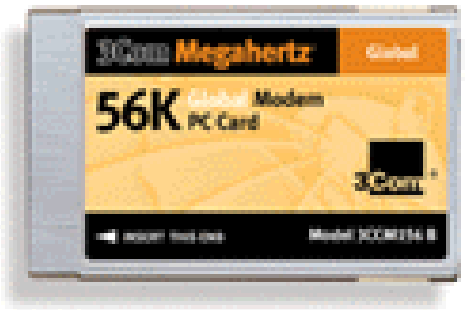
BUSES DE CONEXION



Bus CompactPCI

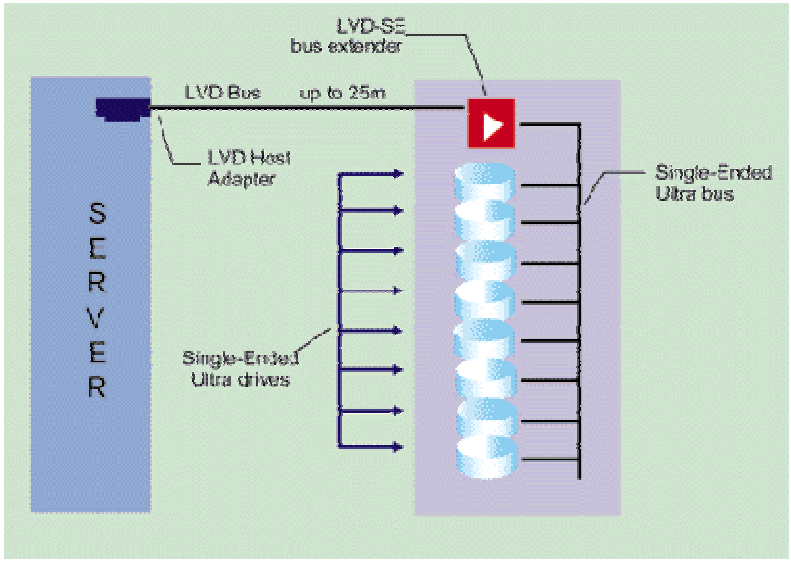


Bus PCI-ISA



Tarjeta PCMCIA

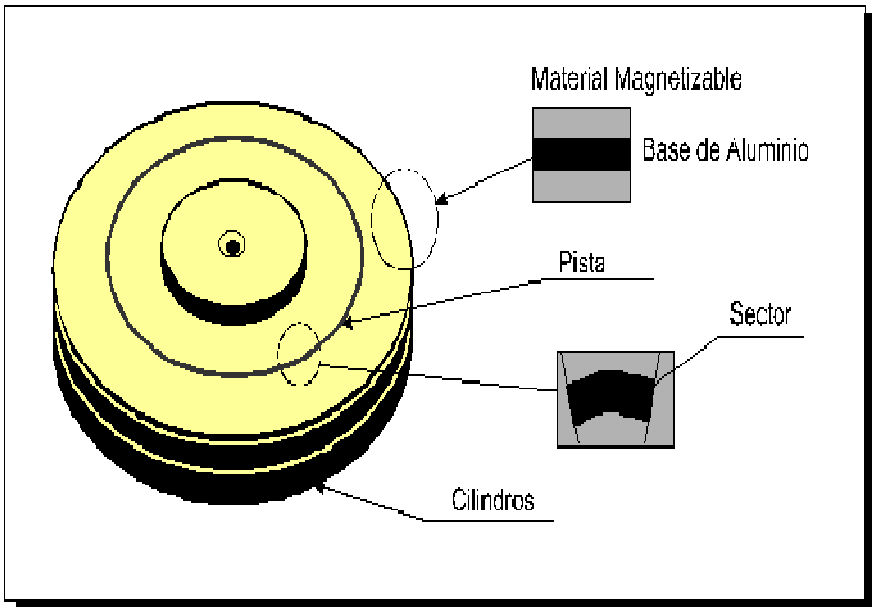
BUSES DE CONEXION



Controlador SCSI

DISCOS DUROS

DISCOS DUROS



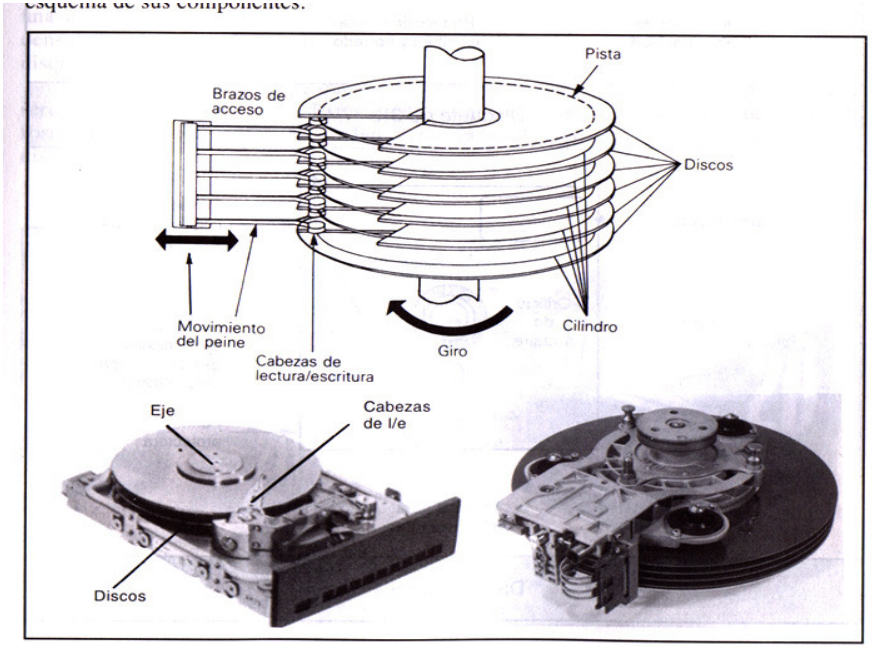


Figura 4.12 Detalles y esquema de una unidad de disco rígido o duro.

DISCOS DUROS

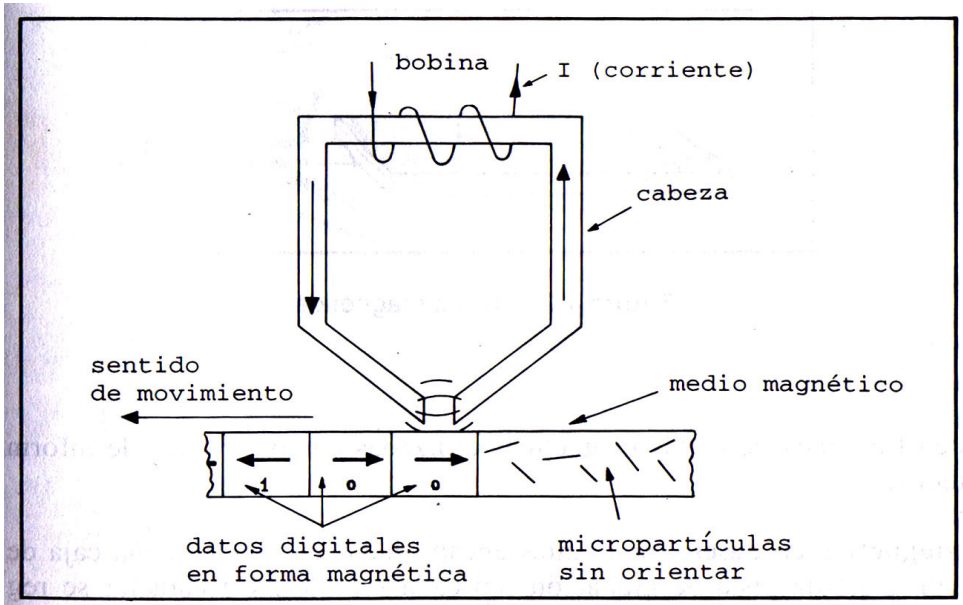
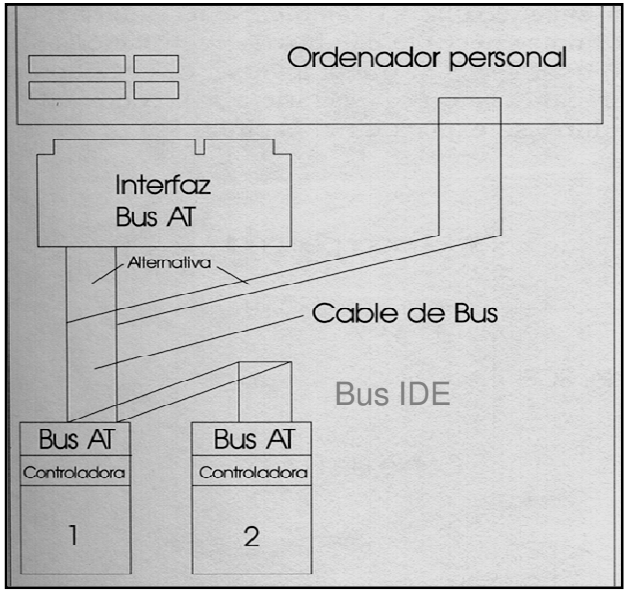
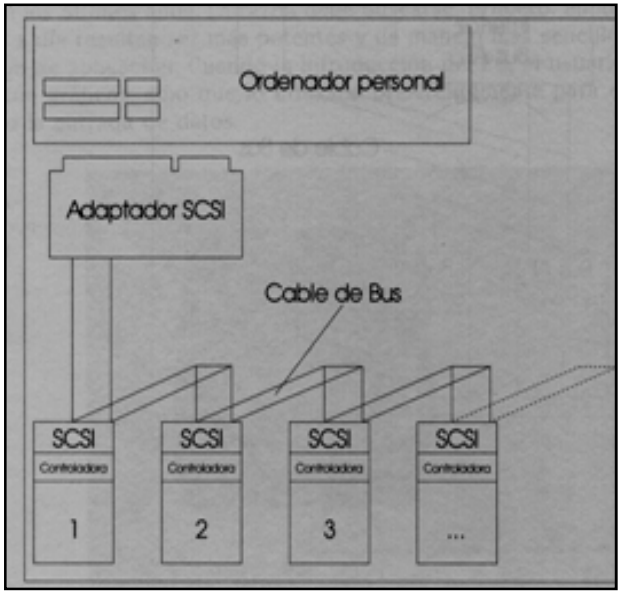


Figura 4.2 Grabación de la superficie magnética





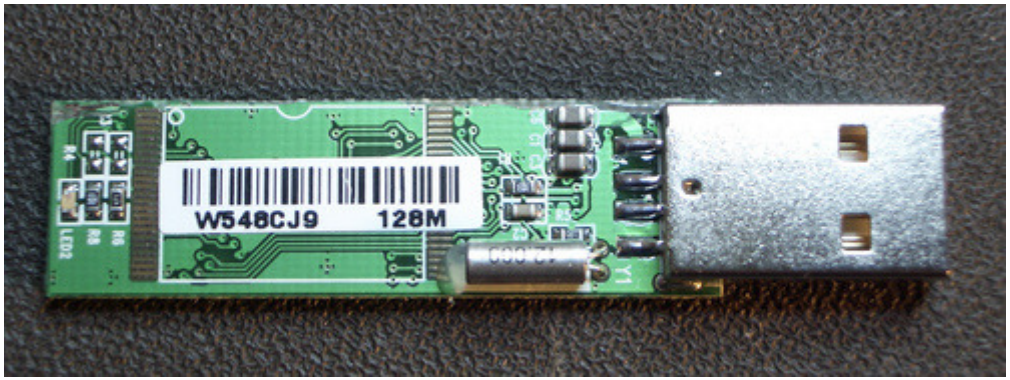
DISCOS DUROS DE ESTADO SOLIDO

COMPARACION DE HD MAGNETICO Y HD SOLID STATE

Tarjeta Estado Sólido (SSD) de un Asus Eee Pc 901 de 8 Gb (Mini PCI Express)

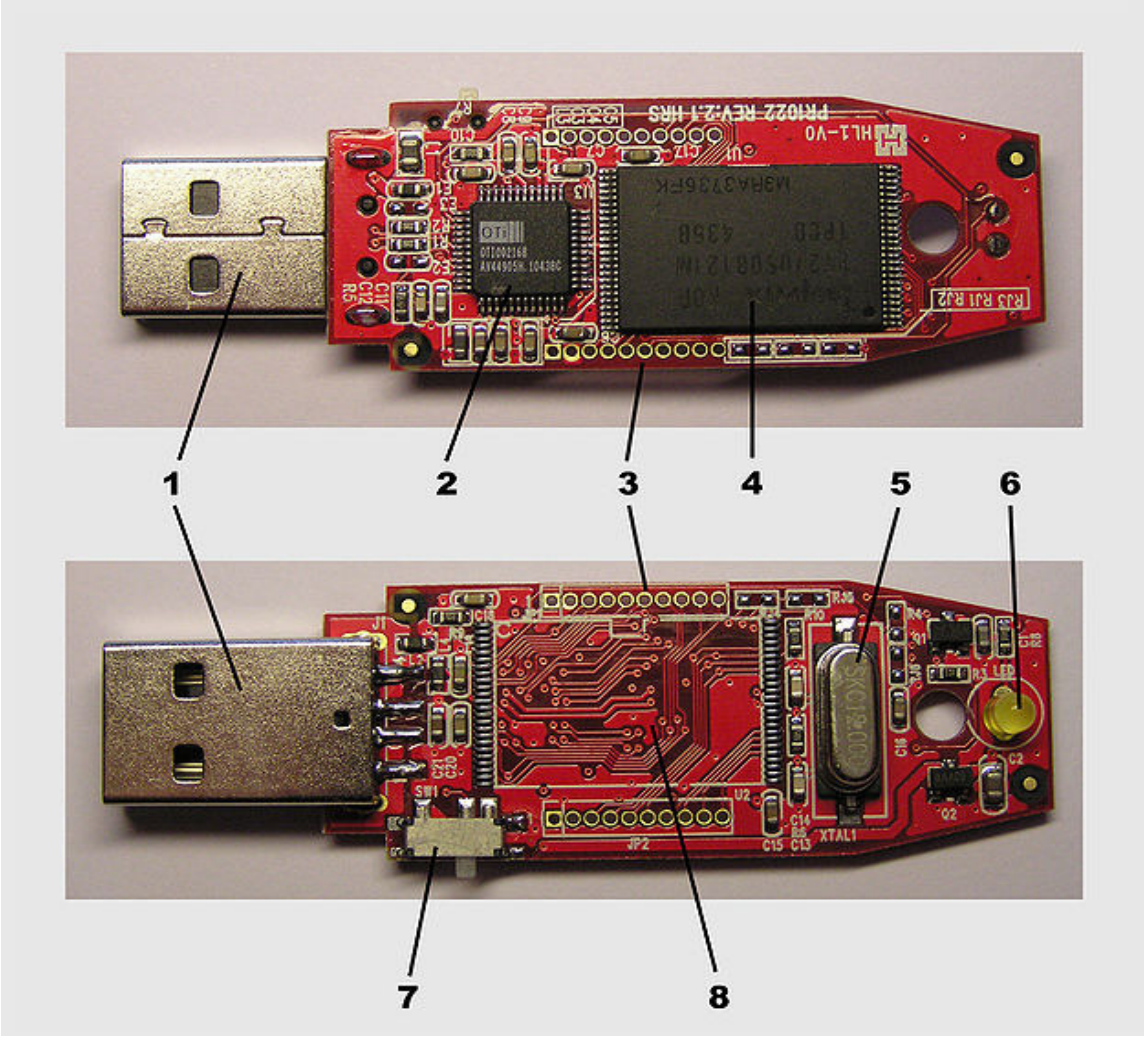
MEMORIAS USB

TIPICA MEMORIA USB O PENDRIVE



CIRCUITO GENERAL DE UNA MEMORIA USB

MEMORIAS USB



1. Conector USB
2. Dispositivo de control de almacenamiento masivo USB
3. Puntos de Prueba
4. Circuito de Memoria flash
5. Oscilador de cristal
6. LED
7. Interruptor de seguridad contra escrituras
8. Espacio disponible para un segundo circuito de memoria flash

CINTA MAGNETICA

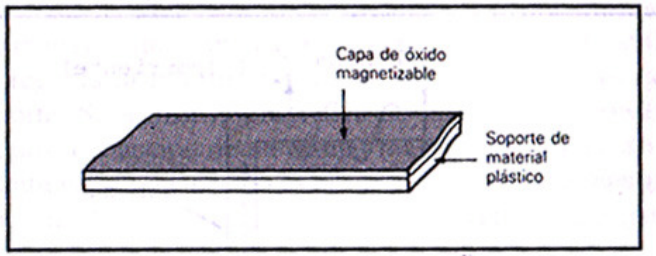


Figura 4.3 Cinta magnética.

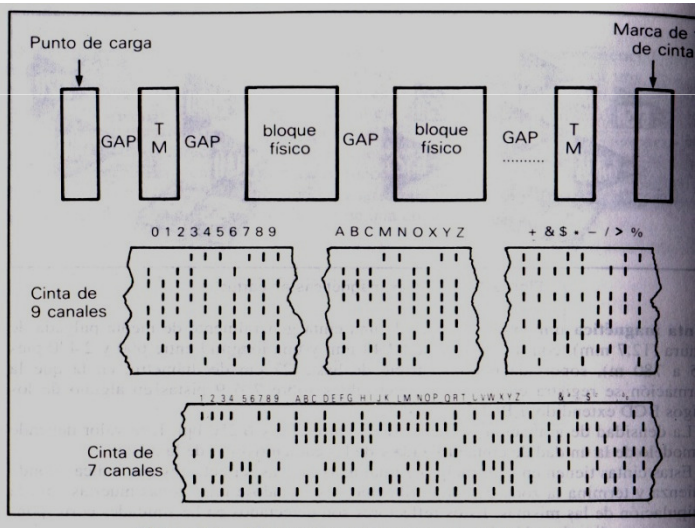


Figura 4.5 Información en una cinta magnética universal.

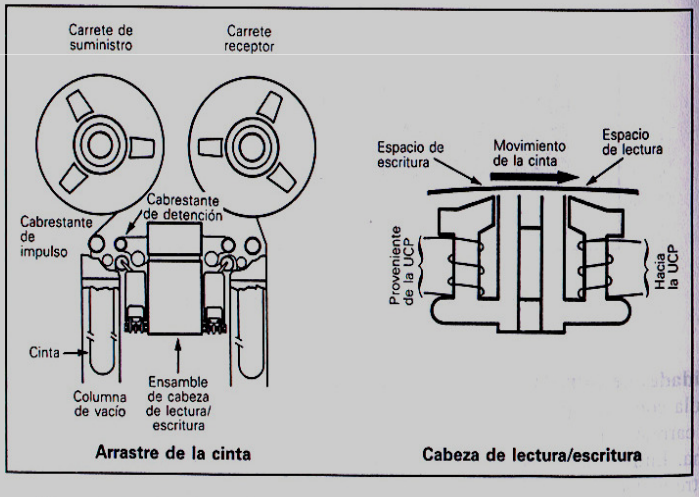
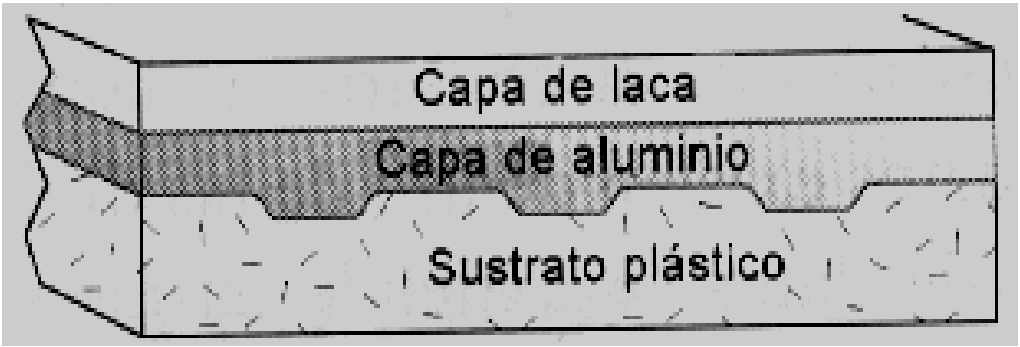
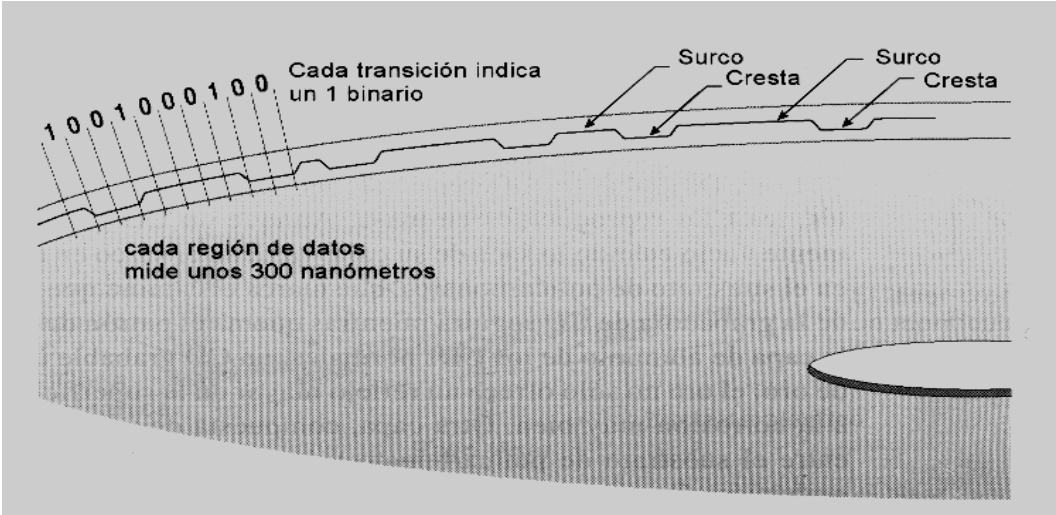


Figura 4.9 Detalles de los dispositivos de una unidad de cinta universal.


Capa de laca
Capa de aluminio
Sustrato plástico

CDROMs


1 0 0 1 0 0 0 1 0 0
Cada transición indica un 1 binario
Surco
Cresta
Surco
Cresta
cada región de datos mide unos 300 nanómetros

DVD

Velocidad	Mbit/s	MB/s	MiB/s
1x	10,80	1,35	1,29
2x	21,60	2,70	2,57
2,4x	25,92	3,24	3,09
2,6x	28,08	3,51	3,35
4x	43'20	5,40	5,15
6x	64,80	8,10	7,72
8x	86,40	10,80	10,30
10x	108,00	13,50	12,87
12x	129'60	16'20	15,45
16x	172'80	21'60	20,60
18x	194,40	24,30	23,17
20x	216,00	27,00	25,75
22x	237,60	29,70	28,32
24x	259,20	32,40	30,90

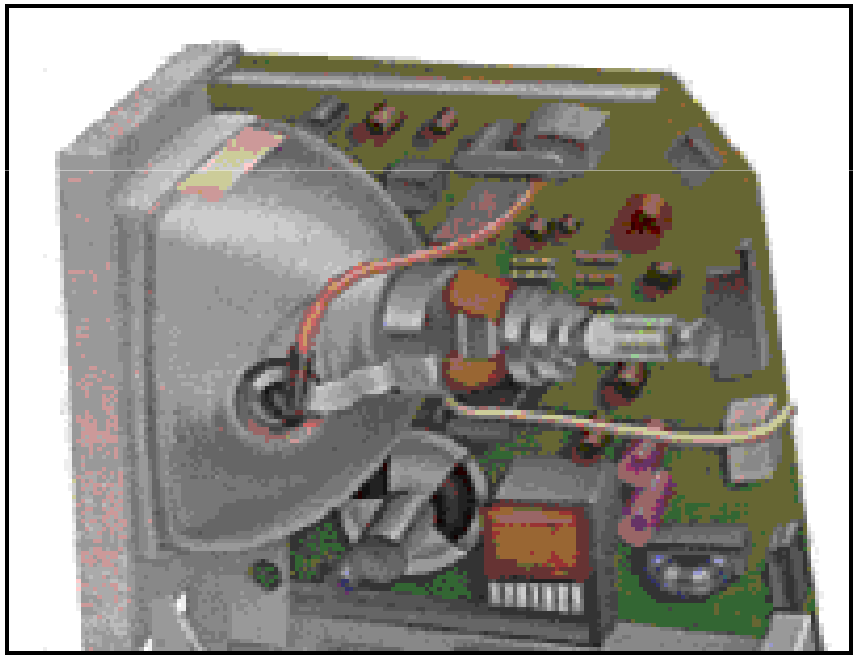
BLUE RAY

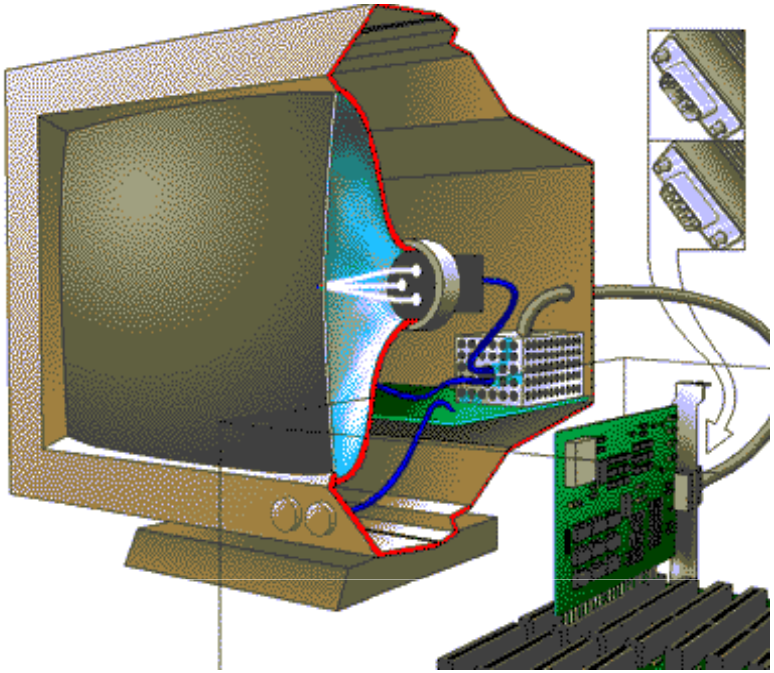
Velocidad de la unidad	Velocidad de trasferencia		Tiempo teórico de escritura (minutos)	
	Mbit/s	MB/s	Una capa	Doble capa
1×	36	4,5	90	180
2×	72	9	45	90
4×	144	18	22,5	45
6×	216	27	15	30
8×	288	36	11,25	22,5
12×	432	54	7,5	15

DIFERENCIAS ENTRE SOPORTES OPTICOS

	Blue-Ray	HD DVD	HD-VMD	DVD
Capacidad	23,3/25/27 GB (capa simple) 46,6/50/54 GB (capa doble)	15 GB (capa simple) 30 GB (capa doble)	19 GB (cuatro capas) 24 GB (cinco capas)	4,7 GB (capa simple) 8,5GB (capa doble)
Longitud de onda del rayo láser	405 nm	405 nm	650 nm	650 nm
Tasa de transferencia datos	36,0 / 54,0 Mbps	36,55 Mbps	40,0 Mbps (no indica si es datos o audio/vídeo)	11,1 / 10,1 Mbps
Formatos soportados	MPEG-2, MPEG-4 AVC, VC-1	MPEG-2, VC-1 (basado en WMV), H.264/MPEG-4 AVC	MPEG-1, MPEG-2, MPEG-4 AVC, VC-1	MPEG-1, MPEG-2
Resistencia a rayas y suciedad	Sí	No	No	No
Resolución máxima de vídeo soportada	1080p	1080p	1080p	480p/576p

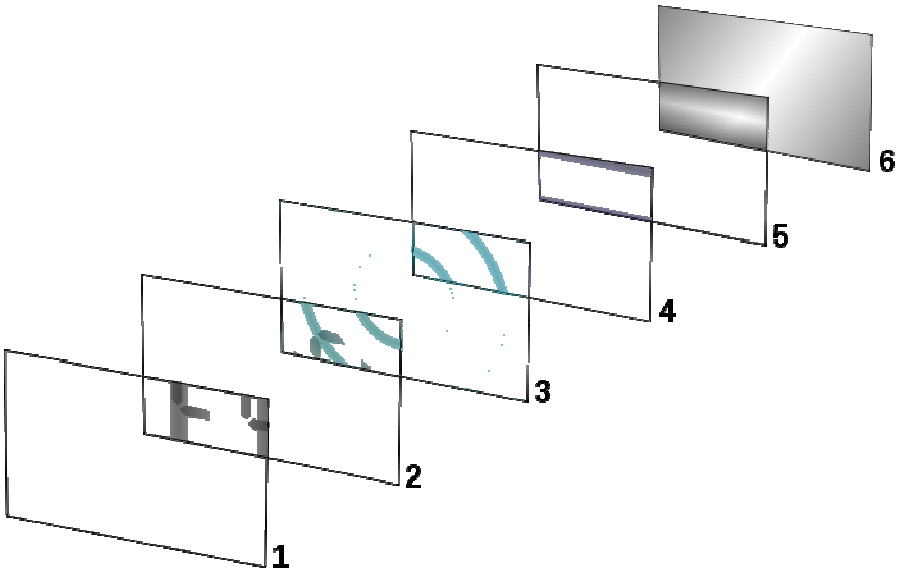
MONITORES





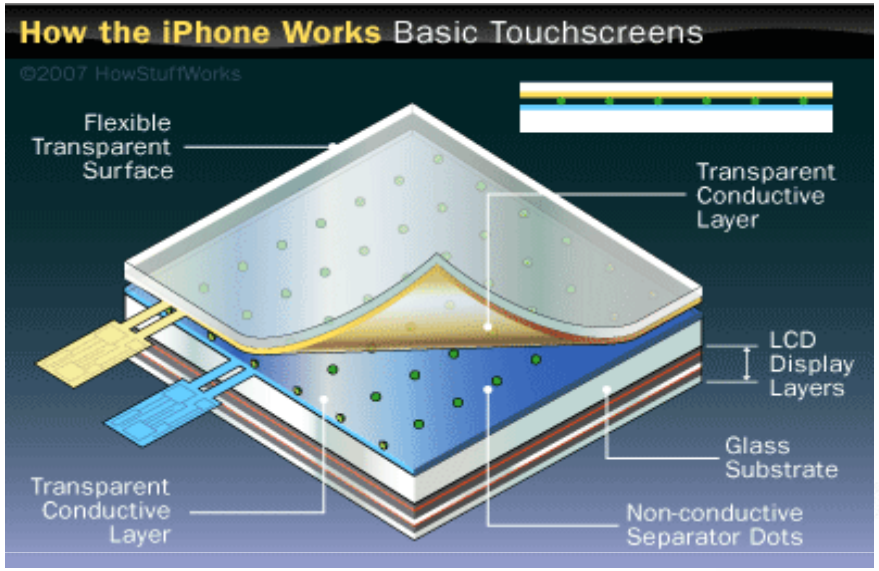
TRC PC IBM

PANTALLA LCD

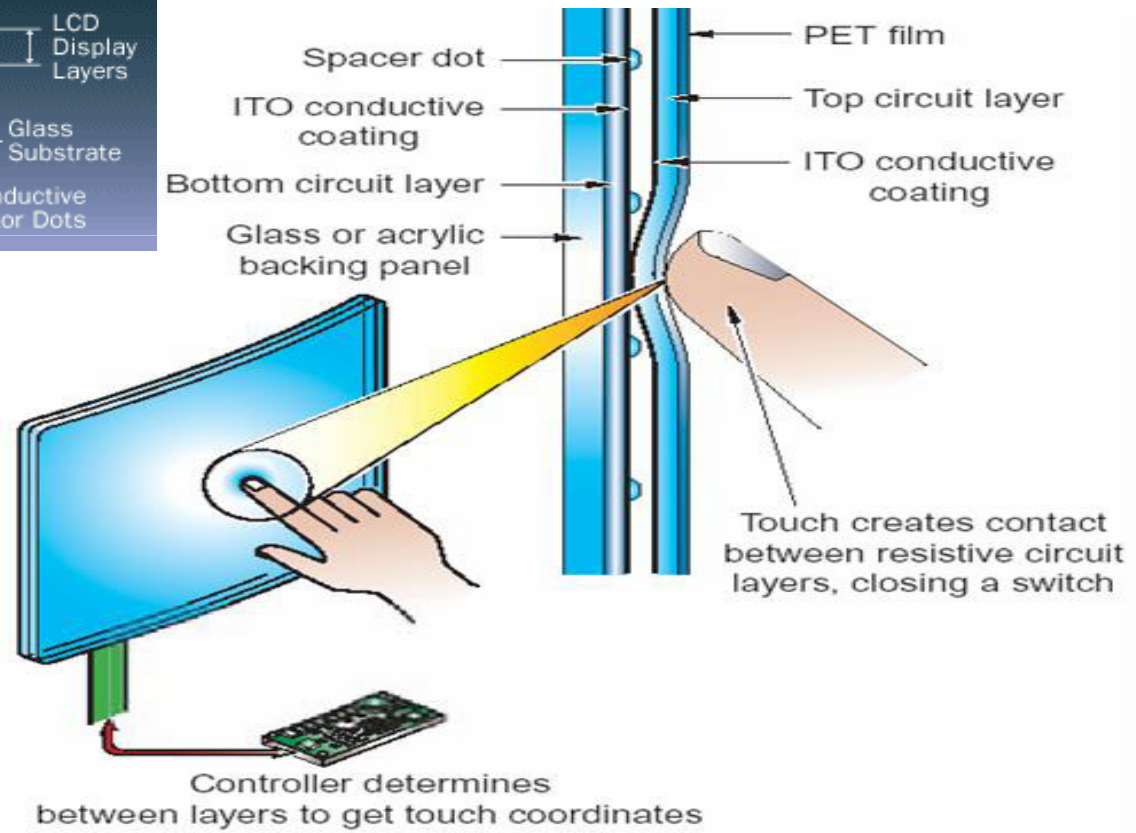


Pantalla de cristal líquido Twisted Nematic (TN).

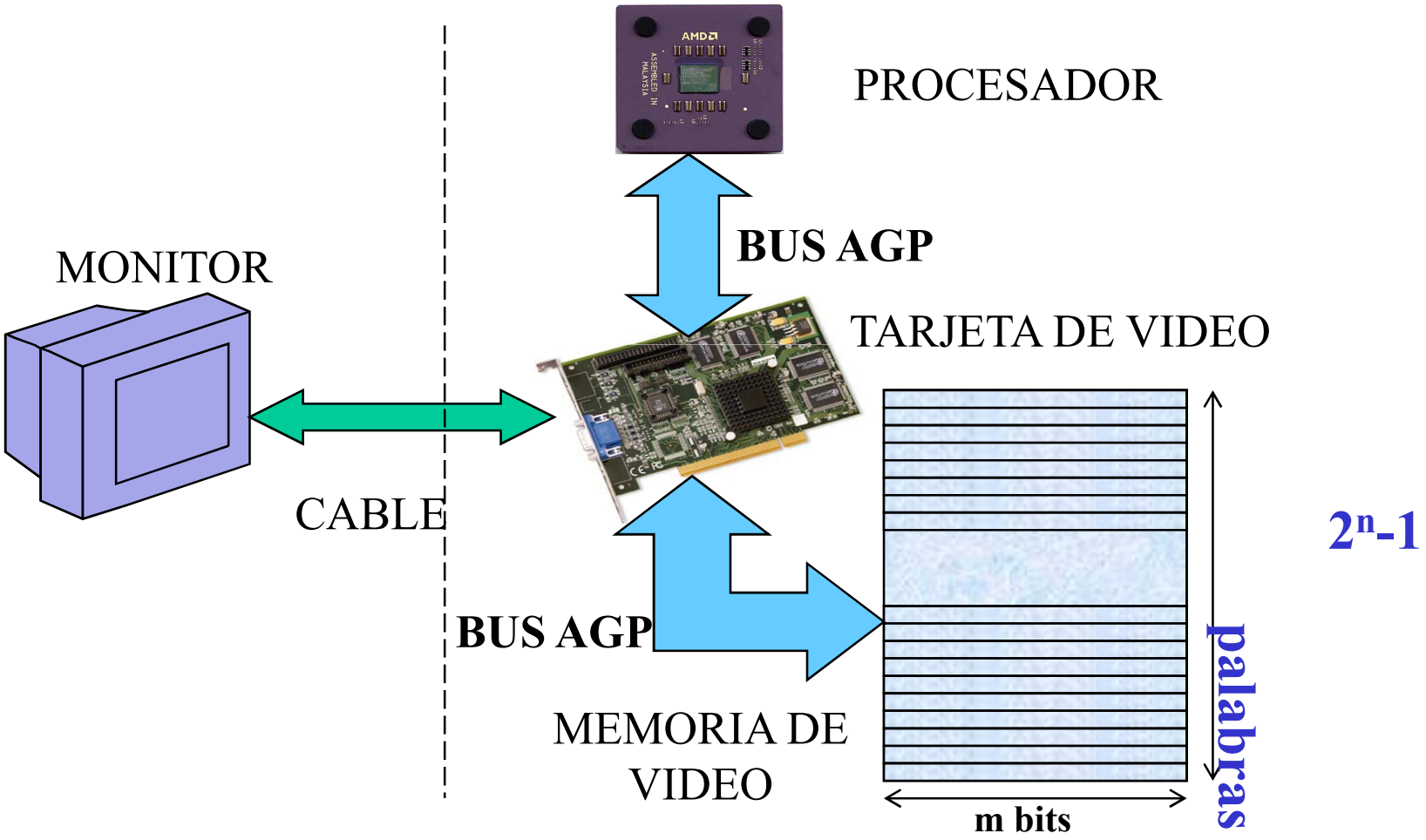
1. Film de filtro vertical para polarizar la luz que entra.
2. Sustrato de vidrio con electrodos de Óxido de Indio ITO. Las formas de los electrodos determinan las formas negras que aparecen cuando la pantalla se enciende y apaga. Los cantos verticales de la superficie son suaves.
3. Cristales líquidos "Twisted Nematic" (TN).
4. Sustrato de vidrio con film electrodo común (ITO) con los cantos horizontales para alinearse con el filtro horizontal.
5. Film de filtro horizontal para bloquear/permitir el paso de luz.
6. Superficie reflectante para enviar devolver la luz al espectador. En un LCD retroiluminado, esta capa es reemplazada por una fuente luminosa.

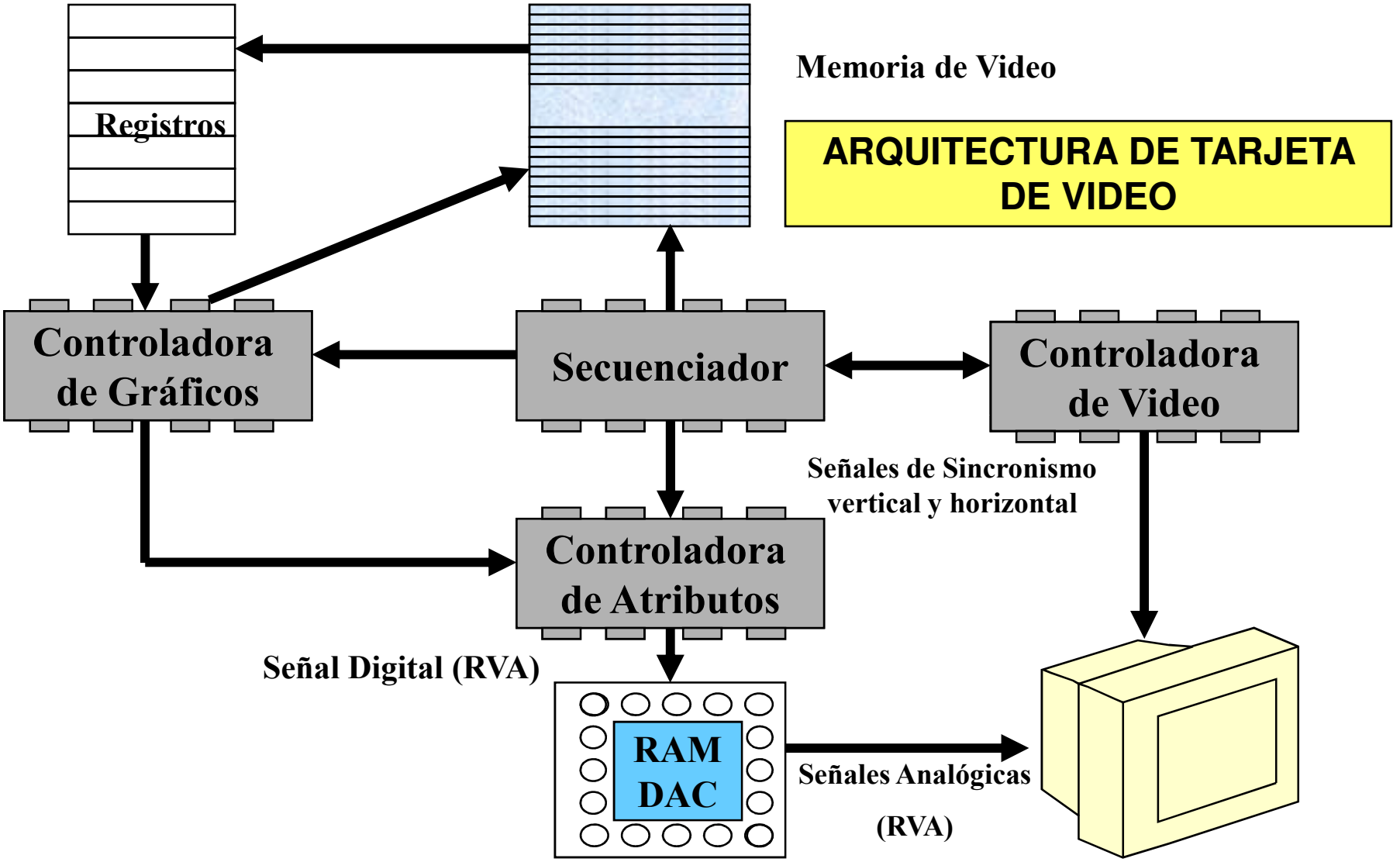


TOUCHSCREENS

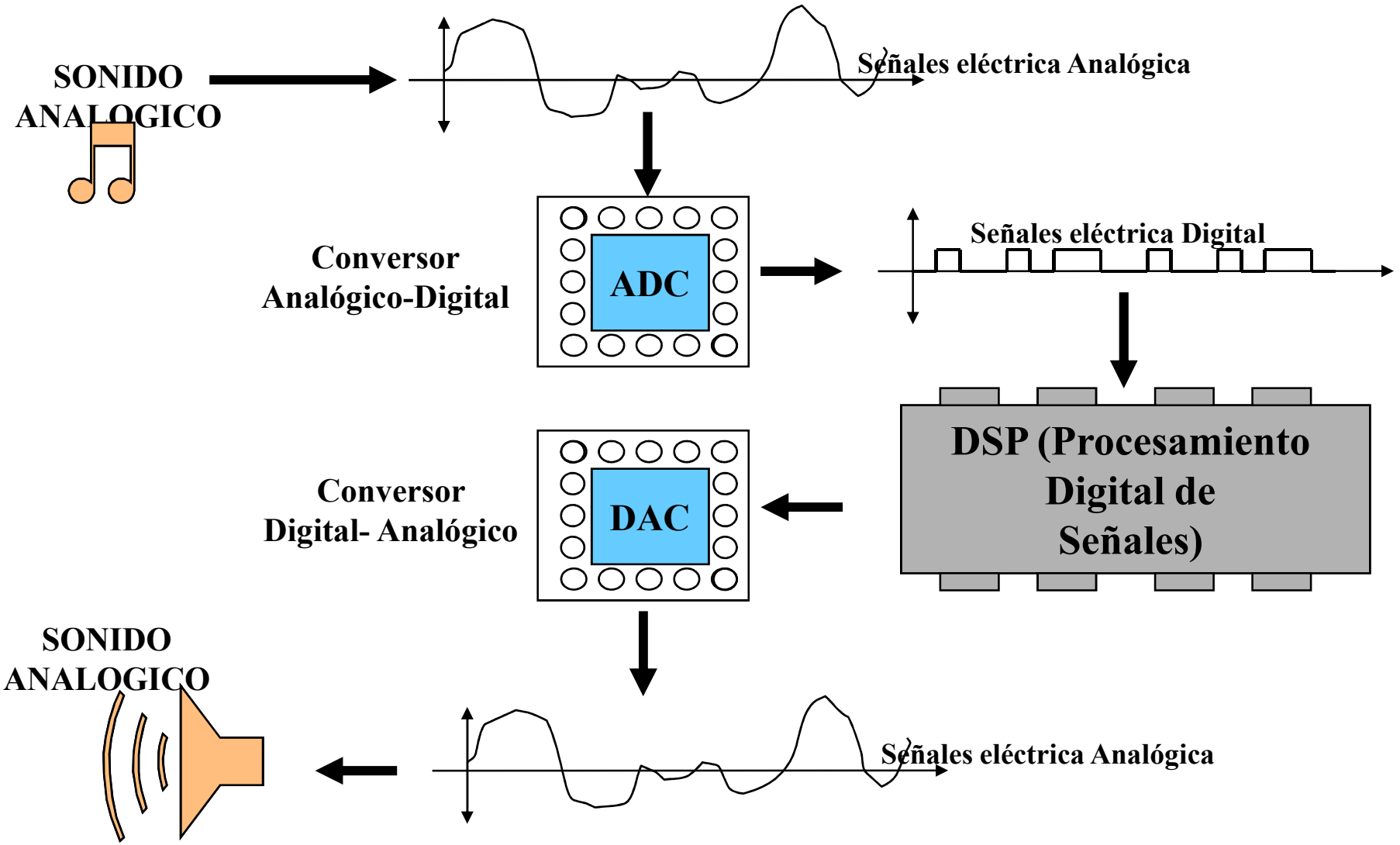


SALIDA STANDARD




Registros
Memoria de Video
ARQUITECTURA DE TARJETA DE VIDEO
Controladora de Gráficos
Secuenciador
Controladora de Video
Señales de Sincronismo vertical y horizontal
Controladora de Atributos
Señal Digital (RVA)
RAM DAC
Señales Analógicas (RVA)

ARQUITECTURA DE TARJETA DE SONIDO



FIN DE LA
UNIDAD 5
PERIFERICOS