PORTS AND CONNECTORS

GROUP 5

OUR TEAM

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DEFINITION AND PURPOSE

Ports

- Socket for conncting external devices to the sytem unit

- Ports connect directly to the system board and to cards inserted into slots on the sytem board.

- Connectors: the plugs or ends of a cable that go into the ports.
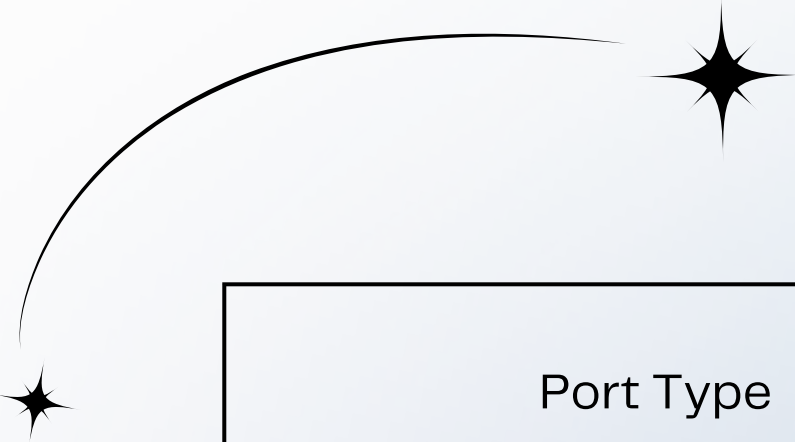
PURPOSE

- Enable communication between devices.

- Facilitate data transfer, charging, audio/video output, and internet connectivity.

- Help in expanding device functionality (e.g., plugging in USB drives, printers, external displays).

TYPES OF PORTS

Port Type	Full Name	Function	Example Device
USB	Universal Serial Bus	Transfers data, connects peripherals, charging	Keyboard, mouse, flash drive
HDMI	High-Definition Multimedia Interface	Sends high-quality audio/video	Connect PC to monitor/TV
VGA	Video Graphics Array	Transmits analog video	Old monitors or projectors
Ethernet (RJ-45)	-	Wired internet connection	LAN cables to routers
Audio Jack (3.5mm)	-	Transfers audio signals	Headphones, speakers
DisplayPort	-	Digital video/audio	Modern monitors
Thunderbolt/USB-C	-	High-speed data, video, power	Laptops, phones, docking stations

STANDARD & SPECIALIZED PORTS

USB
Keyboards, mice, printers, storage devices

Ethernet
High speed networking

STANDARD PORT

HDMI – High Definition Multimedia Interface
– High definition video and audio

Thunderbolt
–Provides high–speed connections
–Can connect up to 7 separate devices through 1 port

STANDARD & SPECIALIZED PORTS

External Serial Advanced Technology Attachment (eSATA)
High-speed connection for external secondary storage

Musical Instrument Digital Interface (MIDI)
Connect musical instruments

Mini DisplayPort (MiniDP or mDP)
Connection to large monitors

VGA & DVI
Connections to analog and digital monitors

FireWire
High-speed connections to FireWire devices

SPECIALIZED PORT

How different ports are used in Hardware Connections

Use Case	Port	Connector Example	Description
Connecting a keyboard	USB–A	USB connector	Plug into USB port for typing
Internet (wired)	Ethernet	RJ–45 connector	Connects PC to router/modem
Display to monitor	HDMI	HDMI cable	Transmits video & audio
Projector (old models)	VGA	VGA cable	Analog video output
Phone charging	USB–C	USB–C cable	Power and data sync
Headphones	3.5mm jack	Audio plug	For audio output

Port Types

Type	Picture	Type	Picture	Type	Picture
Audio in		HDMI port		Serial	
Cable TV		Headphones		Side surround sound	
Center surround sound/subwoofer		Keyboard		S/PDIF in	
Composite video in		Microphone		S/PDIF out	
Digital Video Interface (DVI)		Monitor		Speaker	
eSATA port		Mouse		S-video	
FireWire		Network		Telephone line in	
FM reception		Rear surround sound		USB	

EXAMPLES OF REAL WORLD USAGE

Laptop to TV:
Port: HDMI
Use: Watch movies from your laptop on a bigger screen.
PC to Router:

Port: Ethernet (RJ-45)
Use: Faster and stable internet than Wi-Fi.

USB Flash Drive:
Port: USB-A/USB-C
Use: Transfer files between devices.

Printer Connection:
Port: USB
Use: Print documents from computer

Headphones:
Port: 3.5mm Audio Jack
Use: Listen to audio privately.

Q&A

HDMI ports are used
only for video output?

THANK YOU

Presented by

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