1.2.4 Port and Connector Facts

You should be familiar with the following ports and connectors, where they are located, and which devices they support.

Port/Cable	Description
 VGA (DE-15)	The video graphics array (VGA) port is used to connect external display devices such as projectors and some monitors. VGA ports: - Transmit an analog video signal. - Have three rows of five pins. - Use a DE-15 connector. DE-15 connectors are often called DB-15 connectors, which is a misnomer.
 DVI	A digital visual interface (DVI) port is used to connect display devices. DVI ports: - Carry either an analog signal, a digital signal, or both. - Support one of two cable and connector types, single link or dual link.
 HDMI DisplayPort	The High-Definition Multimedia Interface (HDMI) port and DisplayPort are used to send high-quality digital video and audio signals. The following devices use the HDMI and DisplayPort: - LCD monitors - HDTVs HDMI has a smaller form factor connector called an HDMI-mini connector. This connector is half the size of a standard HDMI connector and is used to connect smart phones, tablets, and digital cameras to external displays.
 Thunderbolt	The Thunderbolt port combines PCI Express (PCIe) and DisplayPort signals into a single interface. The Thunderbolt port can also provide DC power. Thunderbolt ports are mainly used for external displays.
	The separated video (s-video) port is used for connecting external displays. It has

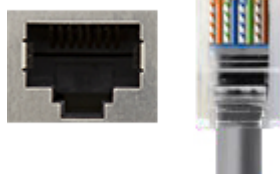|	
S-Video (miniDin-4)	slightly better picture quality than an RCA video port.
USB	The USB port is one of the most common computer ports. USB ports are used to connect a variety of devices. • Mouse and keyboard devices • External storage devices • Digital cameras • Printers • Scanners • Microphones • Webcams
Audio Jack	Audio jacks are used to send or receive analog audio signals. Audio jacks use 3.5 mm TRS connectors to connect audio devices such as: • Speakers • Headphones • Microphones • Audio output devices Audio jacks use a common color code to denote the port type: • Green: line out • Pink: mic in • Blue: line in • Orange: subwoofer • Black: rear speakers
Coaxial S/PDIF Fiber S/PDIF	The S/PDIF port is used to send a digital audio signal to high-end audio devices such as home theatre systems or Dolby Digital surround sound systems. • Coaxial S/PDIF ports use a copper coaxial cable to transmit signals. • Fiber S/PDIF ports use fiber optic cables to transmit signals.
RJ45	RJ45 ports are used to create Ethernet networks by connecting multiple computers and networking devices. RJ45 ports have eight connector pins.
	RJ11 ports are used by telephones and modems to send analog signals. RJ11 ports

RJ11

have four connector pins.

Computer ports that have been replaced by newer technology are considered legacy ports. Legacy ports are still widely used and provide functionality, but are neither as fast nor as efficient as the ports that have replaced them. The following table explains some common legacy ports.

Port/Cable	Description
 PS/2 (Mini-DIN-6)	The PS/2 port, also called mini-DIN-6, is used to connect older PS/2 keyboard or mouse devices. PS/2 ports are color coded. Purple denotes the keyboard port, and green denotes the mouse port. The PS/2 port has been superseded by the USB port.
 Serial (DB-9)	The serial port is used to connect serial devices, such as a barcode scanner, dial-up modem, or serial mouse. Serial ports are also used to configure and manage some networking devices. *RS-232* is a standard for serial communication transmission of data. It defines the signals connecting computer equipment like a computer and a modem. The RS-232 standard was commonly used in computer serial ports. USB has replaced RS-232 for most of its peripheral interface roles. Many computers no longer come equipped with RS-232 ports.
 Parallel (DB-25)	The parallel port connects older devices that use a parallel interface, such as printers, hard drives, and gamepads. The parallel port was superseded by the USB and RJ45 port.
	The DB-15 port is used by legacy gamepads, joysticks, and MIDI devices. These ports are typically found on older sound cards.

DB-15