

History of Telecommunication

History of Telecommunication – Study Notes

1. Foundations (Pre-19th Century)

Period	Milestone	Key Figures / Innovations
Ancient Times	Visual signalling (smoke, fire, mirrors) & auditory signalling (drums, horns)	Early societies (China, Greece, Rome)
16th–18th C	Optical telegraph (semaphore) – line of sight towers transmitting coded flags or shutters	Claude Chappe (France, 1792)
Late 18th C	Electrical experiments with static and voltaic electricity	Benjamin Franklin, Luigi Galvani, Alessandro Volta

2. The Birth of Electrical Telecommunication (1800–1900)

Year	Development	Significance
1837	Samuel Morse invents the electric telegraph and Morse code	First practical long-distance, near-instant communication
1844	First telegraph line between Washington, D.C. and Baltimore	Demonstrates commercial viability
1854	Cooke & Wheatstone develop the electric telegraph for railways (UK)	Improves safety and scheduling
1860s–1870s	Expansion of national and trans-continental telegraph networks (e.g., Trans-Atlantic Cable , 1858, 1866)	Connects continents; marks true global communication
1876	Alexander Graham Bell patents the telephone	Voice transmission replaces Morse code for many users
1880	First telephone exchanges (Boston, New York)	Enables multiple users to connect via a central switchboard
1890	Guglielmo Marconi demonstrates wireless (radio) telegraphy	Opens the path to broadcast and mobile communication

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3. Early 20th Century – Radio, Broadcast & Early Mobile

Decade	Highlights
1900s	Development of AM radio (Reginald Fessenden, 1906) – first voice broadcast
1910s	World War I accelerates radio tech; introduction of vacuum tube amplifiers
1920s	Commercial radio broadcasting explodes (e.g., KDKA 1920, first US station)
1930s	Frequency Modulation (FM) invented by Edwin Armstrong – higher fidelity, less static
1940s	World War II spurs radar, cryptography, and early microwave communication
1947	Bell Labs invents the transistor – foundation for miniaturized electronics
1950s	First telephone satellites (e.g., Telstar , 1962) and microwave relay networks

4. The Digital Revolution (1960-1990)

Year	Breakthrough	Impact
1960	Introduction of pulse code modulation (PCM) – digitizing voice	
1962	Telstar 1 – first active communications satellite (transmits TV, phone, fax)	
1969	ARPANET launch – precursor to the Internet	
1971	Intel 4004 – first micro	