

17 Electronics 1

A Electronics is a branch of engineering and physics. It deals with the **emission**, behaviour, and effects of **electrons** for the **generation**, **transmission**, **reception**, and **storage** of information. This information can be **audio signals** in a radio, **images (video signals)** on a television screen, or numbers and other data in a computer. **Electronic systems** are important in communication, **entertainment**, and **control** systems.

Electronic circuits consist of interconnections of electronic components, at the heart of which are **semiconductors**. **Transistors**, which are made of **silicon** or **germanium**, are made from semiconductors. Commercial products range from **cellular radiotelephone systems** and video cassette recorders to high-performance **supercomputers** and sophisticated **weapons systems**. In industry, electronic devices have led to dramatic improvements in productivity and quality. For example, **computer-aided design** tools facilitate the design of complex parts, such as aircraft wings, or intricate structures, such as **integrated circuits**.

B The development of microelectronics has had a major *impact* on the electronics industry. *Electronic components* are expected to deliver ever higher performance, while electronic circuits continue to benefit from miniaturization.

Function of electronic circuits

amplification • demodulation • electronic processing • generation
information extraction • modulation • radio wave • recovery (of audio signal)

Electronic components

absorb • active • battery • capacitor • diode • energy • generator • inductor
passive • resistor • transducer • transistor • vacuum tube (AmE) • valve (BrE)

Impacts

device size • digitization • fidelity • high speed • increased reliability
manufacturing cost • storage capacity • storage system • ultrahigh image definition

C One way of increasing your vocabulary is to learn the associated words from a key word. Look at the word table below, which shows words related to the key words presented above:

Noun	Verb	Adjective
activation	activate	active
amplification	amplify	amplified
emission	emit	emitted
entertainment	entertain	entertaining
extraction	extract	extracted
generation	generate	generative
integration	integrate	integrated/integrative
reception	receive	receptive
recovery	recover	recovered
reliability	rely	reliable
storage	store	stored
transmission	transmit	transmittable/transmissible