

### Conversions

8 bit	1 Byte	x 8 (->bits)
1024 Bytes	1 KibiByte (KiB)	x 1024 (->Bytes)
1024 KibiBytes	1 MebiByte (MiB)	x 1024 <sup>2</sup> (->Bytes)
1024 MebiBytes	1 GibiByte (GiB)	x 1024 <sup>3</sup> (->Bytes)
1024 GibiBytes	1 TebiByte (TiB)	x 1024 <sup>4</sup> (->Bytes)
4 bit	1 nibble	x 4 (->bits)

transmission speed = file size / time taken  
 image file size = height in pixels x width in pixels x bit depth (or colour depth)  
 text file size = number of bits per character x number of characters  
 sound file size = sample rate x duration x bit depth

### Assess performance of digital devices

- speed
- capacity
- portability
- bandwidth
- power efficiency

### Embedded System

- Characteristics
  - Created to perform the task within a certain time frame
  - Task specific
  - High efficiency
  - Works with less power
  - High reliability
  - Very Stable
  - Minimal or no user interface
  - Less expensive
  - Small sized
  - Hardware is used for security and performance
  - Software is used for features

#### Features and Functions

- Advantages
  - Portable
  - High performance
  - Less energy consumption
- Disadvantages
  - Minimal or no user interface
  - No or little expansion capability

### Embedded System (cont)

Security features (hardware)

Embedded Systems - programmed hardware devices that run on hardware chips, they are designed to work for single or few specific functions often within a larger system