# Media Types

This document gives a breakdown of how to interpret media type codes. Most of the time you will see an output (at least from Cisco CLI) that looks something like this: 10/100/1000BaseTX

The first part (10/100/1000) gives the speed of the optic in Mbps.
The second part (BaseTX) is generally broken up into two letters (in this case TX). The below table details the meaning of the first letter:

| Base Code | Meaning (All except T are fibre) | Wavelength (If fibre) | Mode | Reach |
|---|---|---|---|---|
| T | Copper | n/a | n/a | 100m |
| S | Short Reach | 850nm | Multimode | 100-400m (if using OM4) |
| L | Long Reach | 1310nm | Singlemode | 10km |
| E | Extended Reach | 1550nm | Singlemode | 40km |
| Z | Extra Extended Reach | 1550nm | Singlemode | 70km |

The second letter refers to the speed and follows these general rules:

- **R or H will appear on 10GB connections.**
- **X will appear on 1GB connections or lower.**
- **H tends to be verbalised as “haul” (e.g. LH is long haul single mode)**

**Difference between Single and Multimode**

Single mode has longer distances and higher data rates but is generally more expensive.

**Form Factors**

The form factor refers to the shape or form of the optic that is connected. Common examples include:

**SFP**


**XFP**


**GBIC**

- Both SFPs and GBICs can be fibre or copper
- LC refers to a type of fibre not SFP.
- When looking at Cisco IOS CLI output (`show interface x`) if an optic is installed in the interface it would explicitly says SFP. For example, the output Full-duplex, 100Mb/s, media type is 10/100/1000BaseTX is not a copper SFP since it does not say SFP.