

FAMILIAR → NEW

1. Constant topic (Every sentence begins with *familiar* main topic)

Omnidirectional antennas receive ...



Omnidirectional antennas are employed ...



They are also used at ...

Omnidirectional antennas receive or radiate more or less in all directions. **Omnidirectional antennas** are employed when the relative position of the other station is unknown or arbitrary. **They** are also used at lower frequencies where a directional antenna would be too large, or simply to cut costs in applications which do not require a directional antenna.

2. Step-wise topic (*New info* is presented at the end of sentence and is considered as *familiar* in the next)

the **gain** of the antenna.

→ This **gain** can be accomplished ...

leading to **numerous antenna designs**.

→ **antenna designs** are fed ...

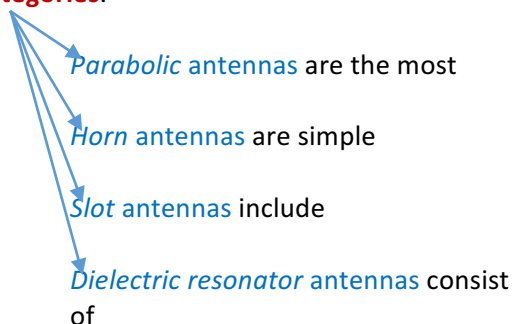
with **additional components** ...

→ Such **components** include

Antennas that are more complex than the dipole or vertical designs are usually intended to increase the directivity and consequently **the gain of the antenna**. **This gain** can be accomplished in many different ways leading to **numerous antenna designs**. **A vast majority of antenna designs** are fed with a balanced line (unlike a monopole antenna) and are based on the dipole antenna with **additional components** (or elements) which increase its directionality. **Such components** include ...

3. Hypertopic (A topic sentence introduces a set of subtopics)

antennas can be divided into **four main categories**.



Aperture antennas are the main type of directional antennas used at microwave frequencies and above. **Aperture antennas** can be divided into **four main categories**. **Parabolic antennas** are the most widely used high-gain antenna type in radar antennas, satellite communication, and radio telescopes. **Horn antennas** are simple antennas with moderate gains of 15 to 25 dBi commonly used for applications such as radar guns, radiometers, and as feed antennas for parabolic dishes. **Slot antennas** include a waveguide with one or more slots cut in it to emit the microwaves. They are used as UHF broadcast antennas and marine radar antennas. **Dielectric resonator antennas** consist of small ball or puck-shaped piece of dielectric material excited by aperture in waveguide. They are used at millimeter wave frequencies.