

- [RF Spectrum Acronyms](#)
  - [RF Connector Information](#)
  - [RF Frequency \( \$f\$ \) and Wavelength \( \$\lambda\$ \)](#)
- 

## RF Spectrum Acronyms

- **DC:** Direct Current (0 Hz).
  - **LF:** Low Frequency (30 KHz ~ 300 KHz).
  - **MF:** Medium Frequency (300 KHz ~ 3 MHz).
  - **HF:** High Frequency (3 MHz ~ 30MHz).
  - **VHF:** Very High Frequency (30 MHz ~ 300 MHz).
  - **UHF:** Ultra High Frequency (300 MHz ~ 3 GHz).
  - **SHF:** Super High Frequency (3 GHz ~ 30 GHz).
  - **EHF:** Extra High Frequency (30 GHz ~ 300 GHz).
- 

## RF Connector Information

- [BNC \(Bayonet Neill Concelman\)](#)
- [MCX \(Micro Coaxial\)](#)
- [MMCX \(Miniature Micro-coaxial\)](#)
- [SMA \(Subminiature Version A\)](#)
- [SMB \(Subminiature Version B\)](#)
- [SMC \(Subminiature Version C\)](#)
- [TNC \(Threaded Neill Concelman\)](#)
- [Type N \(Neill\)](#)
- [UHF Type](#)

### **BNC (Bayonet Neill Concelman)**

Invented by and named after Amphenol Engineer Carl **Concelman** and Bell Labs Engineer Paul **Neill** and was developed in the late 1940's.

A coaxial connector with bayonet coupling mechanism. This connector is available in 50 Ohm and 75 Ohm versions. This connector has a frequency range of DC (0 HZ) through 4 GHz (50 Ohm version) and DC (0 HZ) through 1 GHz (75 Ohm version). The BNC connector is available in standard and reverse polarity configurations.

### **MCX (Micro Coaxial)**

A micro coaxial connector with snap-on coupling mechanism. This connector is available in 50 Ohm and 75 Ohm versions. This connector has a frequency range of DC (0 HZ) through 6 GHz. MCX connectors conform to the European CECC 22220 Specification.

### **MMCX (Micro-Miniature Coaxial)**

A micro-miniature coaxial connector with lock-snap coupling mechanism. This connector has a 50 Ohm Impedance. This connector has a frequency range of DC (0 HZ) through 6 GHz. MMCX connectors conform to the European CECC 22220 Specification.

### **SMA (Subminiature Version A)**

A subminiature coaxial connector with screw type coupling mechanism. This connector has a 50 Ohm Impedance. This connector has a frequency range of DC (0 HZ) through 18 GHz.

### **SMB (Subminiature Version B)**

A subminiature coaxial connector with snap-on coupling mechanism. This connector is available in 50 Ohm and 75 Ohm versions. This connector has a frequency range of DC (0 HZ) through 4 GHz.

### **SMC (Subminiature Version C)**

A subminiature coaxial connector with screw type coupling mechanism. This connector is available in 50 Ohm and 75 Ohm versions. This connector has a frequency range of DC (0 HZ) through 10 GHz.

### **TNC (Threaded Neill Concelman)**

Invented by and named after Amphenol Engineer Carl **Concelman** and Bell Labs Engineer Paul **Neill** and was developed in the late 1950's.

A coaxial connector with screw type coupling mechanism. This connector is available in 50 Ohm and 75 Ohm versions. This connector has a frequency range of DC (0 HZ) through 11 GHz (50 Ohm

version) and DC (0 HZ) through 1 GHz (75 Ohm version). The TNC connector is available in standard and reverse polarity configurations.

### **Type N (Neill)**

The first connector capable of microwave performance. Invented by and named after Bell Labs Engineer Paul Neill and was developed in the 1940's.

A coaxial connector with screw type coupling mechanism. This connector is available in 50 Ohm and 75 Ohm versions. This connector has a frequency range of DC (0 HZ) through 11 GHz (50 Ohm version) and DC (0 HZ) through 1 GHz (75 Ohm version). The Type N connector is available in Standard N (For Coaxial Cable) and Helical N, or "HN", (For Corrugated Cable) configurations.

### **UHF Type**

Invented by Amphenol Engineer E. Clark Quackenbush and was developed in the 1930's for use in the radio industry.

A coaxial connector with screw type coupling mechanism. This connector has a non-defined impedance. This connector has a frequency range of DC (0 HZ) through 300 MHz. The UHF Type connector is a general purpose connector developed for use in Low Frequency systems from 600 KHz to 300 MHz.

"UHF" is an acronym for "Ultra High Frequency". When the UHF connector was introduced in the 1930's, 300 MHz was considered Ultra High Frequency.

---

### **RF Frequency ( $f$ ) and Wavelength ( $\lambda$ )**

- Frequency ( $f$ ) in Kilohertz =  $(300,000) / \text{Wavelength in Meters}$ .
- Frequency ( $f$ ) in Megahertz =  $(300) / \text{Wavelength in Meters}$ .
- Frequency ( $f$ ) in Megahertz =  $(984) / \text{Wavelength in Feet}$ .
- Wavelength ( $\lambda$ ) in Meters =  $(300,000) / \text{Frequency in Kilohertz}$ .
- Wavelength ( $\lambda$ ) in Meters =  $(300) / \text{Frequency in Megahertz}$ .
- Wavelength ( $\lambda$ ) in Feet =  $(984) / \text{Frequency in Megahertz}$ .

