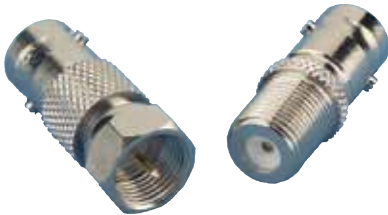
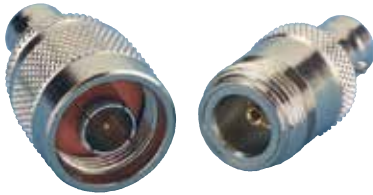




**100601, 100590** / BNC To SMA Adapters



**100612, 100614** / BNC To F-Type Adapters



**100616, 100617** / BNC To N-Type Adapters

### Air-service Between Series Coaxial Adapters

*Between Series Coaxial Adapters* provide connectivity from BNC to SMA, F-Type and N-Type connections.

#### Between Series Coaxial Adapters — 80°C / Air Atmosphere

Connector Type	End-One Termination	End-Two Termination	Model Number	Part Number	Unit Price \$
<b>BNC to SMA</b>					
Adapter	BNC Male	SMA Male	ABA28	<b>100600</b>	17
Adapter	BNC Female	SMA Male	ABA29	<b>100601</b>	17
Adapter	BNC Female	SMA Female	ABA588	<b>100590</b>	17
<b>BNC to F</b>					
Adapter	BNC Female	F Male	ABA120	<b>100612</b>	5
Adapter	BNC Female	F Female	ABA220	<b>100614</b>	5
<b>BNC to N</b>					
Adapter	BNC Female	N Male	ABN109	<b>100616</b>	17
Adapter	BNC Female	N Female	ABN110	<b>100617</b>	17
<b>BNC to BNC</b>					
Adapter	BNC Female	BNC Female	ABA80	<b>100610</b>	5

**Coaxial Cabling Terms**

Coaxial cabling is a two conductor closed transmission medium that is primarily used for the transmission of radio frequency energy. The system offers tight control over electrical impedance. This yields excellent performance at high frequencies and superior EMI control/shielding. Coaxial cabling is commonly found in test environments as well as in broadcast, video and networking systems. Listed below are some common terms and definitions that are related to coaxial cabling.

**Attenuation (Insertion Loss):** Loss of power. Attenuation is usually measured in dB loss per length of cable, e.g. 31.0 dB/100 ft. Attenuation increases as frequency increases.

**Center Conductor:** The solid or stranded wire in the middle of the coaxial cable. The conductor diameter is measured by the American Wire Gauge (AWG).

**Coaxial Adapter:** A device used to change one connector type to another or one gender to another, e.g. BNC to SMA Adapter. See page 90 for adapters.

**Coaxial Cable:** A two conductor cylindrical transmission line typically composed of a center conductor, an insulating dielectric material and an outer conductor (shielding). Coaxial cable can be flexible (typical to the assemblies found in this catalog), semi-rigid or rigid in nature.

**Coaxial Connector:** The interconnection device found at each end of a coaxial cable assembly. There are many common types of coaxial connectors, such as: BNC, SMA, MHV, etc.

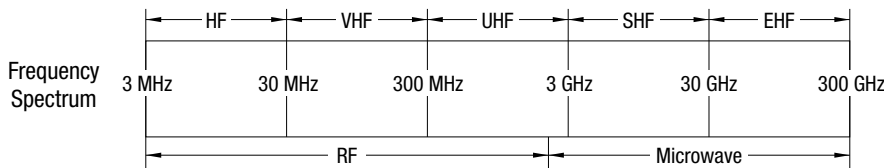
**Dielectric:** The insulating material that separates the center conductor and the shielding.

**Electromagnetic Interference (EMI):** Electrical or electromagnetic energy that disrupts electrical signals.

**Frequency:** The number of times a periodic action occurs in one second. Measured in Hertz.

**Frequency Band Data:** Coaxial products listed in this section are generally intended for use in the RF frequency band as illustrated here.

**Hertz (Hz):** The SI unit of frequency. The hertz is named after the German physicist Heinrich



Rudolf Hertz, who made important scientific contributions to electromagnetism. The name was established by the IEC in 1930. It was adopted by the CGPM (Conférence générale des poids et mesures) in 1960, replacing the previous name for the unit, cycles per second (cps), along with its related multiples, primarily kilocycles per second (kc/s) and megacycles per second (Mc/s). The term cycles per second was largely replaced by hertz by the 1970s.

**Impedance:** The opposition to the flow of alternating or varying current. Measured in Ohms. Two common impedance values are 50 Ohms used primarily for data and 75 Ohms used to transmit video signals.

**RF (Radio Frequency):** A frequency band from 3 MHz to 3 GHz. Primarily used for transmission of radio and television signals.

**RG/U:** Symbols used to represent coaxial cable that is built to U.S. government specifications (R = Radio Frequency, G = Government, U = Universal Specification).

**Shielding:** Conductive envelope made of wires or metal foil that covers the dielectric and the center conductor.

**VSWR (Voltage Standing Wave Ratio):** Amount of reflected power expressed as a ratio, e.g. 1.25:1 and 2:1, where 1.25:1 = 80% and 2:1 = 50%. VSWR increases as frequency increases.

**Coaxial RF — Typical Ranges in Hertz**

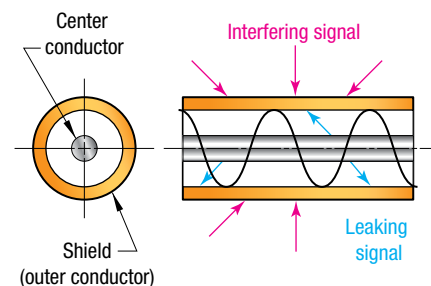
Frequency	SI Symbol	Name
10 <sup>3</sup>	kHz	kilohertz
10 <sup>6</sup>	MHz	megahertz
10 <sup>9</sup>	GHz	gigahertz
10 <sup>12</sup>	THz	terahertz

**Dielectric Constants**

Material	Constant
Air / Vacuum	1
PEEK	3.40
Teflon®	2.1
Pyrex®	5
Glass	6.5 ~ 8

**Shielding Effectiveness**

Shielding Effectiveness is the relative ability of a shield to screen out undesirable interference. In the case of a coaxial cable, the outer conductor provides a shield to keep interfering signals from getting in and to keep signal from leaking out to become undesirable interference for nearby devices. Shielding Effectiveness is measured in dB with higher values indicating better shielding properties.



Coaxial