

Keysight Technologies
U8903A-109 BNC Accessory Kit

Application Note

The Keysight Technologies, Inc. U8903A-109 BNC Accessory kit along with a few examples of complete components is shown below in Figure 1. The kit consists of a BNC Socket, a custom threaded metal sleeve and a BNC plug with custom centre pin. The kit can be used to make an in line BNC component containing any combination of passive components the user wishes to connect between the input and the output.



Figure 1.

Series Component

A series BNC component can be made as shown in Figure 2 below, the series component is soldered to the BNC socket and to the custom center pin of the BNC plug. The distance between the BNC connector shoulder and the tip of the pin should be adjusted to be 42 mm with no positive tolerance.

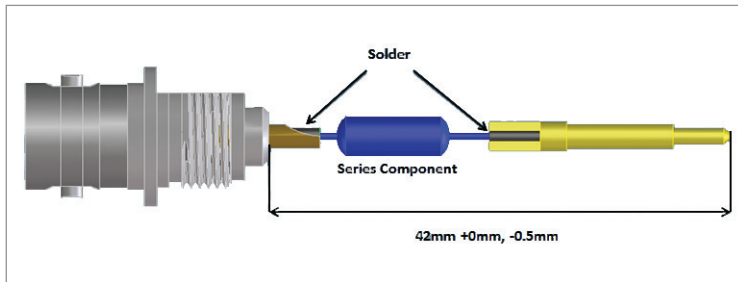


Figure 2.

Once the series component is soldered in place the assembly can be completed by adding the threaded sleeve and the body of the BNC plug as shown in Figure 3. Thread-lock can be used on the threaded areas to make the component permanently secure.

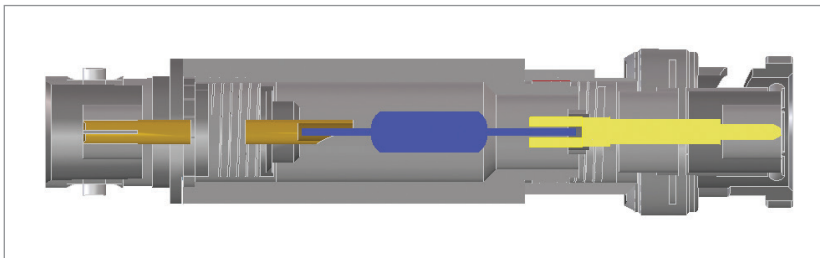


Figure 3.

An example application is where a series resistor is added to the output resistance of the U8903A Audio Analyzer to give any desired impedance the user wishes.

Parallel Component

For a parallel component a length of stiff copper wire 1mm diameter or less is soldered in place as a series element observing the 42 mm dimension previously detailed.

Next the parallel element is soldered to the flat face on the threaded portion of the BNC socket. The other end is soldered to any convenient point on the through path.

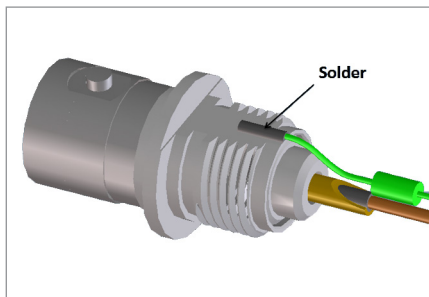


Figure 4.

The complete component is shown in Figure 5.

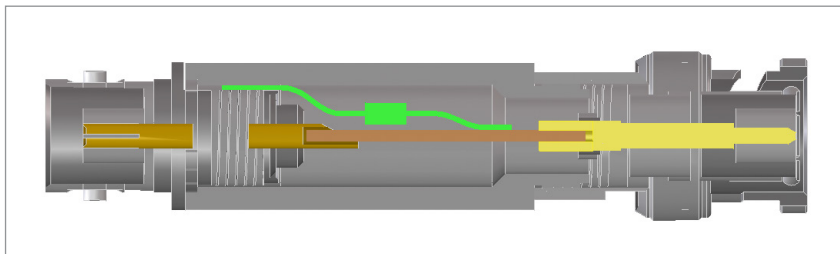


Figure 5.

A typical example application would be where the user requires to make a measurement across a specific load resistance, e.g. 600 Ω .

Series Parallel Combination

The Series parallel combination can be seen in Figure 5, this is simply a combination of the previous two examples.

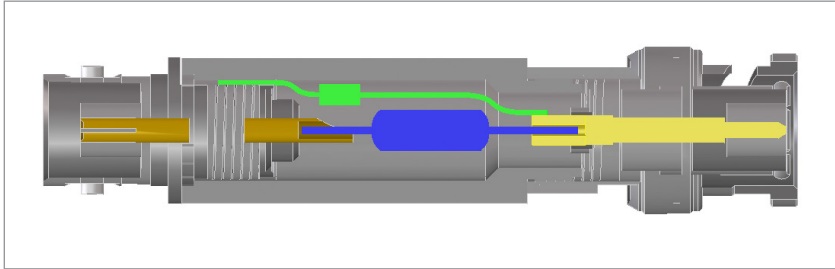


Figure 6.

A typical example application would perhaps be an attenuator or a filter.

Summary

This note details the U8903A-109 BNC accessory kit and shows how it can be used to easily make a variety of very flexible accessories specific to individual customer needs.

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