

# Precision Calibration Solutions

## BNC VNA CAL KITS

From



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### Models:

8550CK10 – Fixed Load Kit 50 Ohm  
8580CK10 – Fixed Load Kit 75 Ohm



Maury Microwave is ISO: 9001:2008/AS9100C Certified.

## BNC VNA Calibration Kits from Maury Microwave

### 8550CK10 & 8580CK10 models

#### Features

- ▶ 50Ω or 75Ω BNC Connectors
- ▶ DC to 10.0 GHz & DC to 12.0 GHz
- ▶ Simple Fixed Load Calibration
- ▶ Keysight, Rhode & Schwarz and Anritsu VNAs Supported

#### Calibration Methods Supported

- ▶ 8550CK10 (50Ω)
  - Fixed Load SOLT (DC–10.0 GHz)
- ▶ 8580CK10 (75Ω)
  - Fixed Load SOLT (DC–12.0 GHz)

#### The Importance of VNA Calibration

Imperfections exist in even the finest test equipment. If uncorrected these systematic imperfections cause the equipment to yield less accurate measurements. The basis of network analyzer error correction is referred to as “calibration” of which multiple methods exist.

#### Calibration Method

SOLT calibration, which uses Short, Open and Load standards, requires precise models of the standards’ electrical performance. Fixed load SOLT uses fixed terminations and is adequate for measuring devices with mid-range reflection coefficients. The lowest return loss is limited by the reflection coefficient of the fixed load standard (typically better than 20 dB return loss\*).

8550CK10 calibration kits are designed for calibrating Vector Network Analyzers (VNAs) from DC to 10.0 GHz for making 50 ohm measurements of devices with BNC connectors. The 8580CK10 kits are likewise designed for calibrating VNAs that will be used to make measurements of devices with 75Ω BNC connector measurements.

A full complement of calibration standards (opens, shorts and fixed terminations, female and male) are included in both the 8550CK10 and 8580CK10 kits. All components are housed in a foam-lined wooden instrument case. Operating instructions with the calibration standard constants can be downloaded from the Maury website. The instruction manual explains how the cal constants can be keyed in from the VNA’s front panel. Optional VNA software, specific to your VNA make and model, is sold separately.

#### Recommended Accessories

##### A012A 50Ω/75Ω Dial Indicator Style Connector Gage Kit:

This kit contains one (1) “push-on” type gage for measuring the female and male contact pin and dielectric interface locations for 50Ω and 75Ω BNC connectors.

##### 8582D3/D4 Series Phase Matched 75Ω BNC Adapters:

These between series adapters are designed to adapt 75Ω BNC to 7mm. Visit [maurymw.com](http://maurymw.com) for detailed information.

##### 2621A1/B1 Series Phase Matched 50Ω BNC Adapters:

These between series adapters are designed to adapt 50Ω BNC to 7mm. Visit [maurymw.com](http://maurymw.com) for detailed information.

Go to [www.maurymw.com/Precision/Adapters.php](http://www.maurymw.com/Precision/Adapters.php) to see all Maury 50Ω and 75Ω BNC between series adapters.



A012A



8582D3/D4



2621A1/B1

## Maury BNC VNA Calibration Kits

Maury precision BNC VNA calibration kits include each of the calibration standards and tools shown in the tables at the right. In-series and between-series adapters are sold separately.

### 8550CK10



### 8580CK10



## Components Included in 8550CK10 Kits

QUANTITY	DESCRIPTION	MODEL
1	50Ω BNC female fixed short circuit	361N2
1	50Ω BNC male fixed short circuit	361P2
1	50Ω BNC female open circuit	371N2
1	50Ω BNC male open circuit	371P2
1	50Ω BNC female fixed termination	351A2
1	50Ω BNC male fixed termination	351B2
1	Foam-lined wood instrument case	—

In-series and between series adapters are available by separate order. Go to [maurymw.com](http://maurymw.com) for more information.

## Components Included in 8580CK10 Kits

QUANTITY	DESCRIPTION	MODEL
1	75Ω BNC female fixed short circuit	8584A1
1	75Ω BNC male fixed short circuit	8584B1
1	75Ω BNC female open circuit	8585A1
1	75Ω BNC male open circuit	8585B1
1	75Ω BNC female fixed termination	8583A1
1	75Ω BNC male fixed termination	8583B1
1	Foam-lined wood instrument case	—

In-series and between series adapters are available by separate order. Go to [maurymw.com](http://maurymw.com) for more information.

**Warning:** Do not mate a 75 ohm BNC connector to a 50 ohm BNC connector. Severe damage may result.

**50Ω BNC COMPONENT SPECIFICATIONS**

**50Ω Fixed Terminations – Models 351A2 and 351B2**



Frequency Range	DC to 10.0 GHz
Maximum VSWR:	
DC to 2.0 GHz	1.04
2.0 to 4.0 GHz	1.10
4.0 to 10.0 GHz	1.20
Nominal Impedance	50 ohm
Power Handling	2.0 watt CW, 1.0 kW peak

**50Ω Fixed Shorts – Models 361N2 and 361P2**



Frequency Range	DC to 10.0 GHz
Reflection Coefficient	0.98 minimum
Phase Accuracy	± 5.0 degrees
Nominal Impedance	50 ohm

**50Ω Open Circuits – Models 371N2 and 371P2**



Frequency Range	DC to 12.4 GHz
Reflection Coefficient	0.98 minimum
Phase Accuracy	± 5.0 degrees
Nominal Impedance	50 ohm

**50Ω BNC Connector Description**

Maury BNC series connectors are 50-ohm impedance connectors with two-stud bayonet coupling. These connectors conform to MIL-PRF-39012 (formerly MIL-C-39012). The connectors are normally made with stainless steel bodies and with heat treated gold-plated beryllium copper contacts.

**75Ω BNC COMPONENT SPECIFICATIONS**

**75Ω Fixed Terminations – Models 8583A1 & 8583B1**



Frequency Range	DC to 12.0 GHz
Maximum VSWR:	
DC to 2.0 GHz	1.02
2.0 to 4.0 GHz	1.04
4.0 to 12.0 GHz	1.10
Nominal Impedance	75 ohm
Power Handling	1 watt CW

**75Ω Fixed Shorts – Models 8584A1 & 8584B1**



Frequency Range	DC to 12.0 GHz
Reflection Coefficient	0.98 minimum
Phase Accuracy:	
DC to 2.0 GHz	± 1.0°
2.0 to 3.0 GHz	± 2.0°
3.0 to 12.0 GHz	± 6.0°
Nominal Impedance	75 ohm

**75Ω Open Circuits – Models 8585A1 and 8585B1**



Frequency Range	DC to 12.0 GHz
Reflection Coefficient	0.98 minimum
Phase Accuracy:	
DC to 2.0 GHz	± 1.0°
2.0 to 3.0 GHz	± 2.0°
3.0 to 12.0 GHz	± 6.0°
Nominal Impedance	75 ohm

**75Ω BNC Connector Description**

Maury BNC series connectors are 75-ohm impedance connectors with two-stud bayonet coupling. These connectors conform to MIL-PRF-39012 (formerly MIL-C-39012). The connectors are normally made with stainless steel bodies and with heat treated gold-plated beryllium copper contacts.