



BNC VNA Calibration Kits

DATASHEET / 2Z-069

Models:

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



BNC VNA Calibration Kits

8550CK10 & 8580CK10 models

Features

- > 50Ω or 75Ω BNC Connectors
- > DC to 10.0 GHz & DC to 12.0 GHz
- > Simple Fixed Load Calibration
- > Keysight, Rohde & 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.

A012A



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.

2621A1/B1



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

These between series adapters are designed to adapt 50Ω BNC to 7mm. Visit maurymw.com for detailed information.

Go to maurymw.com to see all Maury 50W and 75W BNC between series adapters.

Maury AFTNC VNA Calibration Kits

Maury precision AFTNC VNA calibration kits include each of the calibration standards and tools shown in the tables at the right. The 8680CK10/20 kits do not include adapters; the 8680CK11/21 kits include one each of the in-series adapters shown. Other in-series and between-series adapters are sold separately.

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	—

Between series adapters are available by separate order. Go to maurymw.com for more information.

8550CK10



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	—

Between series adapters are available by separate order. Go to maurymw.com for more information.

8580CK10



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 10 GHz

Reflection Coefficient -- 0.98 minimum

Phase Accuracy -- ± 5.0 degrees

Nominal Impedance -- 50 ohm

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 -- $\pm 1.0^\circ$

2.0 to 3.0 GHz -- $\pm 2.0^\circ$

3.0 to 12.0 GHz -- $\pm 6.0^\circ$

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 -- $\pm 1.0^\circ$

2.0 to 3.0 GHz -- $\pm 2.0^\circ$

3.0 to 12.0 GHz -- $\pm 6.0^\circ$

Nominal Impedance -- 75 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 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.



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Maury Microwave is AS9100D & ISO 9001:2015 Certified.

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