

AFTNC VNA Calibration Kits

8680A Standard Kits & 8680B Fixed Termination Kits

Features

- ▶ MIL-C-87104/2 AFTNC Interface
- ▶ Rated to 20 GHz
- ▶ Sliding Load and Fixed Load Kits
- ▶ Multiple VNA Support

Description

Maury 8680 calibration kits provide the necessary standards and accessories required to accurately calibrate network analyzers up to 20 GHz for error-corrected measurements of devices equipped with AFTNC connectors. Each kit includes a full complement of calibration standards (as listed at right) and can be configured for any combination of VNA or test set/cable connectors. The "A" model kits include both sliding and fixed terminations; the "B" model economy kits include only fixed terminations. All kit components are supplied in an attractive foam-lined wood instrument case.

Connector Description

The Maury AFTNC connectors supplied in this kit fully comply with the interface requirements of MIL-C-87104/2. The male connector utilizes a solid outer conductor configuration to provide consistent measurement results. All connector bodies are fabricated from stainless steel for strength and wear resistance. These connectors were developed using optimized HFSS simulation to provide extremely low VSWR, and they are rated to 20 GHz. For interface specifications on these connectors, please refer to Maury data sheet 5E-056.

Recommended Accessories

- 2698G1 0.562 hex torque wrench (12 in. lbs) See page 94.
- A012E Connector gage kit (push-on type) See page 92.



8680A

Components Included in 8680A/B Kits

QUANTITY	DESCRIPTION	MODEL
1	AFTNC female fixed offset short	8686A
1	AFTNC male fixed offset short	8687A
1	AFTNC female open	8685A
1	AFTNC male open	8685B
1	AFTNC female sliding termination	8683A*
1	AFTNC male sliding termination	8683B*
1	AFTNC female fixed termination	8684A
1	AFTNC male fixed termination	8684B
1	VNA software disk	—
1	Operating Instructions (manual)	—
1	Instrument case	—

* Included in the 8680A standard kits and not included in the 8680B fixed termination kits.

Recommended Adapters

In-Series, Phase Matched Adapters (see page 119)

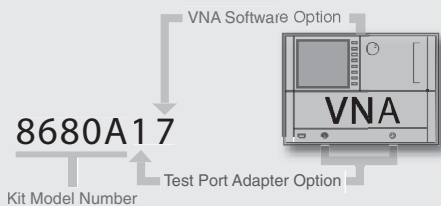
- 8688A AFTNC female to female
- 8688B AFTNC male to male
- 8688C AFTNC female to male

Ordering Options

To specify the test port adapter and VNA software options you need, simply add two digits to the end of the kit model number (as shown in the diagram at right). The first digit is the test port adapter option number, and the second is the VNA software option number (as found in the **Option Finder** below). The example in the diagram shows the combination of digits needed to order a 8680A kit configured with the adapters and software for use with an Agilent PNA that has 7mm test ports.

Option Finder

VNA TEST PORT TYPE	TEST PORT ADAPTER OPTIONS (see page 29)	VNA SOFTWARE OPTIONS					
		KITS W/O SOFTWARE OPTION 0	ROHDE & SCHWARZ ZV SERIES OPTION 1	AGILENT 8510C OPTION 4	AGILENT 8719/20/22 OPTION 5	AGILENT PNA SERIES OPTION 7	ANRITSU 37000 OPTION 9
AFTNC ¹	0	—	01	04	05	07	09
7mm	1	10	11	14	15	17	19
Type N	2	20	21	24	25	27	29
3.5mm or 2.92mm (K) ²	3	30	31	34	35	37	39



¹ Adapters are not included with these AFTNC test port options, but may be ordered separately, if needed. See pages 31 and 119.

² 3.5mm and 2.92mm (K) connectors are fully mateable. The resulting junction is calibrated out and is not critical.

Key Literature: Maury data sheet 2Z-038.

AFTNC VNA Calibration Kit Adapter Options

7mm, Type N, & 3.5mm Sets

Features

- ▶ AFTNC to 7mm, AFTNC to Type N, and AFTNC to 3.5mm Adapters
- ▶ DC to 20 GHz
- ▶ High Performance
- ▶ Phase Matched Within Model Series

Description

The NMD3.5mm test port adapters in these sets are specifically designed to mate with the special ruggedized connectors used on commercial VNA test sets. The precision 7mm, Type N, and 3.5mm adapters feature low VSWR, low insertion loss and are of minimum length. The sets described on this page are configured to provide users with the ability to tailor their Maury calibration kit for use with specific VNAs. These adapters may be ordered as options shipped with their corresponding VNA calibration kits, or as individual adapters (by model number) to serve as replacement parts or spares.

Adapters Included in 7mm Sets

TEST PORT ADAPTER OPTION	QUANTITY	DESCRIPTION	MODEL
1	2	7mm to AFTNC female	8692A
	2	7mm to AFTNC male	8692B

Adapters Included in Type N Sets

TEST PORT ADAPTER OPTION	QUANTITY	DESCRIPTION	MODEL
1	1	Type N female to AFTNC female	8694A
2	1	Type N female to AFTNC male	8694B
	1	Type N male to AFTNC female	8694C
	1	Type N male to AFTNC male	8694D

Adapters Included in 3.5mm Sets

TEST PORT ADAPTER OPTION	QUANTITY	DESCRIPTION	MODEL
3	1	NMD3.5mm female to AFTNC female	8691A
	1	NMD3.5mm female to AFTNC male	8691B
	1	3.5mm female to AFTNC female	8682A
	1	3.5mm female to AFTNC male	8682B
	1	3.5mm male to AFTNC female	8682C
	1	3.5mm male to AFTNC male	8682D

Adapter Specifications

The Maury precision AFTNC adapters and the NMD3.5mm test port adapters included in these sets conform to the following:

Ruggedized Test Port Adapters

Models 8691A and 8691B (for more detail see page 108)

Frequency Range	DC to 20.0 GHz
Maximum VSWR:	
DC to 4.0 GHz	1.04
4.0 to 20.0 GHz	1.10
Nominal Impedance	50 ohm

Precision 3.5mm to AFTNC Adapters

Models 8682A/B/C/D (for more detail see page 111)

Frequency Range	DC to 20.0 GHz
Maximum VSWR:	
DC to 4.0 GHz	1.04
4.0 to 12.0 GHz	1.06
12.0 to 20.0 GHz	1.08
Nominal Impedance	50 ohm

Precision Type N to AFTNC Adapters

Models 8694A/B/C/D (for more detail see page 116)

Frequency Range	DC to 18.0 GHz
Maximum VSWR:	
DC to 4.0 GHz	1.04
4.0 to 8.0 GHz	1.06
8.0 to 18.0 GHz	1.08
Nominal Impedance	50 ohm

Precision 7mm to AFTNC Adapters

Models 8692A/B (for more detail see page 113)

Frequency Range	DC to 18.0 GHz
Maximum VSWR:	
DC to 4.0 GHz	1.04
4.0 to 18.0 GHz	1.06
Nominal Impedance	50 ohm

Precision AFTNC In-Series Adapters

Models 8688A/B/C (for more detail see page 119)

Frequency Range	DC to 20.0 GHz
Maximum VSWR:	
DC to 4.0 GHz	1.04
4.0 to 8.0 GHz	1.08
8.0 to 18.0 GHz	1.12
Nominal Impedance	50 ohm