

PRECISION CALIBRATION KITS

PRECISION K (2.92mm) CONNECTORS

Features

- K (2.92mm) Connector
- 0.04 to 40 GHz
- High Performance
- Broad VNA Coverage

Description

Maury precision K (2.92mm) connector calibration kits described in this data sheet are designed for use with a broad range of Vector Network Analyzers (VNAs). With these kits, you can make error-corrected measurements of devices supplied with K connectors from 40 MHz to 40 GHz.

These kits are supplied with a full complement of calibration standards; shorts, opens, sliding and fixed loads, and can be configured for any combination of VNA or test set/cable connectors being utilized. By selecting the appropriate option number, you can incorporate the desired adapter set and software medium to be included in the kit. All required calibration standards, adapters (as applicable), and



8770C

accessories, along with the software medium (cartridge or 3-1/2 disk as applicable) containing the calibration constants and operating instructions, are supplied in an attractive foam-lined wooden instrument case. All kits are 100% tested for compliance to kit specifications (see [Specifications](#)) and a performance verification report is provided with each kit.

The following table shows the basic calibration kits that are available.

Calibration Kit Model	Network Analyzer	Software Provided	
		Medium	Medium Model
8770C(*)	Rohde & Schwarz ZV Series	3-1/2 disk	8770S11
	Agilent 8510A/B	Cartridge	8770S1
	Agilent 8510C	3-1/2 disk	8770S2
	Agilent 8719/20/22	3-1/2 disk ¹	8770L2
	Agilent PNA Series	3-1/2 disk	8770S17
	Anritsu 360	3-1/2 disk	8770V1
	Anritsu 37000	3-1/2 disk	8770S19

(*) Insert desired option number to complete the model number per option chart on Page 2. Additional accessories are available from Maury to allow you to further complement these kits for your specific measurement needs; see [Adapter Set Provided](#) and [Accessories Available](#).



Option Chart

Select the appropriate option number below to complete the basic model number.

Test Set and Cable Connectors	Upper Frequency, GHz ²	VNA							Adapter Set Provided
		Rohde & Schwarz ZV Series	Agilent 8510A/B	Agilent 8510C	Agilent 8719/20/22	Agilent PNA Series	Anritsu 360	Anritsu 37000	
K (2.92mm)	40	01	03	04	05	07	08	09	None
3.5mm/K (2.92mm)	26.5/40	11	13	14	15	17	18	19	8770Z1 ³
7mm	18	21	23	24	25	27	28	29	8770Z2
2.4mm	40	31	33	34	35	29	—	39	8770Z3

Equipment Provided in Basic Kit

The following items are provided in all of these kits:

- 1 each — Fixed short, K female, model 8771F1.
- 1 each — Fixed short, K male, model 8772F1.
- 1 each — Open circuit, K female, model 8773A1⁴.
- 1 each — Open circuit, K male, model 8773B1⁴.
- 1 each — Precision fixed termination, K female, model 8775A2⁵.
- 1 each — Precision fixed termination, K male, model 8775B2⁵.
- 1 each — Precision sliding termination, K female model 8777A⁶.
- 1 each — Precision sliding termination, K male model 8777B⁶.
- 1 each — Open end wrench (5/16)⁷.
- 1 each — Open end wrench (7/16)⁷.
- 1 each — Torque wrench (5/16-8 in/lbs), model 8799A1.
- 1 each — Configuration medium (contains circuit constants). See table on page 1 for model numbers.
- 1 each — Instrument case (P/N 8770Z4).
- 1 each — Operating instructions (P/N 8770Z5).

Adapter Set Provided

When the applicable option number is specified, one of the following adapter sets is provided:

2.92mm Adapter Set, model 8770Z1

(Supplied with options 13, 14, 15, and 18).

- 1 each — Test port adapter, NMD2.92f⁸ to K-f, model 8719A.
- 1 each — Test port adapter, NMD2.92f⁸ to K-m, model 8719B.
- 1 each — Adapter, K female to female, model 8714A1⁹.
- 1 each — Adapter, K male to male, model 8714B1⁹.
- 1 each — Adapter, K female to male, model 8714C1⁹.

NOTE: This adapter set will work with both K (2.92mm) and 3.5mm test set/cable connectors³.

7mm Adapter Set, model 8770Z2

(Supplied with options 23, 24, 25, and 28).

- 2 each — Adapter, 7mm to K female, model 8725A¹⁰.
- 2 each — Adapter, 7mm to K male, model 8725B¹⁰.

2.4mm Adapter Set, model 8770Z3

(Supplied with options 33, 34 and 35).

- 1 each — Test port adapter, NMD2.4f¹¹ to K-f, model 7909F1.
- 1 each — Test port adapter, NMD2.4f¹¹ to K-m, model 7909F2.
- 1 each — Adapter, K-f to 2.4mm-f, model 7926A¹².
- 1 each — Adapter, K-m to 2.4mm-f, model 7926B¹².
- 1 each — Adapter, K-f to 2.4mm-m, model 7926C¹².
- 1 each — Adapter, K-m to 2.4mm-m, model 7926D¹².

Adapter sets or single adapters may be ordered separately by specifying their model number.



Sliding Terminations⁶: Model 8777A, K female
Model 8777B, K male

Frequency Range 4 — 40 GHz
Air line Accuracy 42 dB minimum, 4 — 20 GHz
40 dB minimum, 20 — 40 GHz

VSWR
Terminating Element 1.10 maximum, 4 — 10 GHz
1.05 maximum, 10 — 40 GHz
Impedance 50 ohms nominal
Power Handling 0.5 watts CW, 0.5 kW peak
Travel Greater than 1/2 wavelength at 4 GHz

Test Port Adapters, NMD2.92F to K:

Model 8719A, NMD2.92f⁸ to K female
Model 8719B, NMD2.92f⁸ to K male

Frequency Range DC — 40 GHz
VSWR 1.05 maximum, DC — 4 GHz
1.08 maximum, 4 — 20 GHz
1.12 maximum, 20 — 40 GHz
Impedance 50 ohms nominal

Adapters In Series, K to K⁹:

Model 8714A1, K female to female
Model 8714B1, K male to male
Model 8714C1, K female to male

Frequency Range DC — 40 GHz
VSWR 1.05 maximum, DC — 4 GHz
1.08 maximum, 4 — 20 GHz
1.12 maximum, 20 — 40 GHz
Impedance 50 ohms nominal

Adapters, 7mm to K¹⁰:

Model 8725A, 7mm to K female
Model 8725B, 7mm to K male

Frequency Range DC — 18 GHz
VSWR 1.05 maximum, DC — 4 GHz
1.07 maximum, 4 — 12 GHz
1.10 maximum, 12 — 18 GHz
Impedance 50 ohms nominal

Test Port Adapters, NMD2.4f¹¹ to K:

Model 7909F1, NMD2.4f to K female
Model 7909F2, NMD2.4f to K male

Frequency Range DC — 40 GHz
VSWR 1.10 maximum, DC — 20 GHz
1.16 maximum, 20 — 40 GHz
Impedance 50 ohms nominal

Adapters, 2.4mm to K¹²:

Model 7926A, K female to 2.4mm female
Model 7926B, K male to 2.4mm female
Model 7926C, K female to 2.4mm male
Model 7926D, K male to 2.4mm male

Frequency Range DC — 40 GHz
VSWR 1.10 maximum, DC — 20 GHz
1.16 maximum, 20 — 40 GHz
Impedance 50 ohms nominal

Notes

- 1 The 3-1/2 disk supplied contains the calibration constants for use with the VNAs noted and an external, single or dual, disk drive (Agilent 9122C) is required. If an external disk drive is not available, the constants (supplied in the operating instructions) can be keyed in from the front panel.
- 2 The upper frequency is limited by the test set/cable connectors utilized.
- 3 K (2.92mm) connectors mate directly to 3.5mm connectors and the resulting junction is calibrated out and is not critical.
- 4 These are improved captivated contact and shielded open circuits.
- 5 The fixed loads are used for low frequency Zo calibration up to 4 GHz and for broadband isolation calibration to 40 GHz.
- 6 These precision sliding terminations have a "flush set" adjustment and a "pull back" mechanism to enable proper mating. They are used for Zo calibration from 4 to 40 GHz.
- 7 Open end wrenches are provided to hold various components when tightening the coupling nuts with the torque wrench.
- 8 The ruggedized 2.92mm female (NMD2.92f) connector provided on the models 8719A and 8719B mate directly with the ruggedized male 3.5mm connectors (NMD3.5m) on the Agilent 8513A, 8514B, 8515A, and 85110A test sets, 8719, 8720 and also with the ruggedized K connector supplied on Anritsu 360 test sets.
- 9 The models 8714A1, B1, and C1 adapters are phase matched so they can be readily interchanged.
- 10 The models 8725A & B adapters are phase matched so they can be readily interchanged.
- 11 The ruggedized 2.4mm female (NMD2.4f) connector provided on the models 7909F1 and 7909F2 mate directly with the ruggedized male 2.4mm connectors (NMD2.4m) on the Agilent 8516A and 8517A test sets and the 8722.
- 12 The models 7926A, B, C, and D adapters are phase matched so they can be readily interchanged.