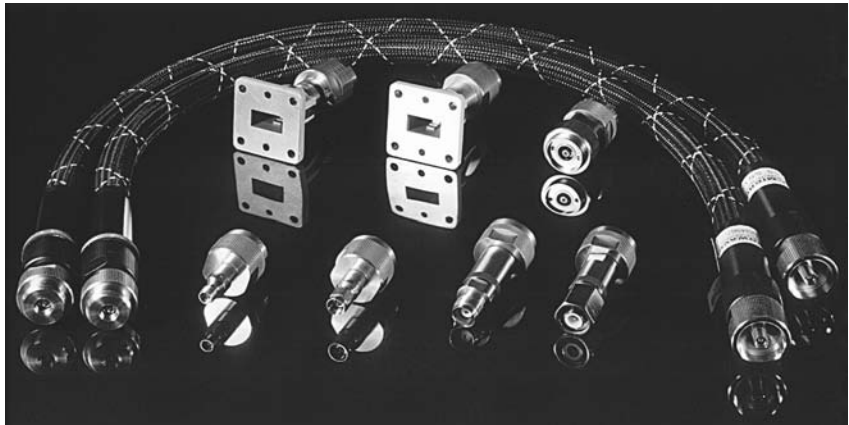


Test Port Cable and Adapter Kits

Coaxial-To-Coaxial and Waveguide-To-Coaxial Test Port Adapters

Features

- For VNA Applications
- Ruggedized Test Port Connectors
- For Use with 2.4mm, 2.92mm, 3.5mm, and 7mm Test Ports
- Coaxial Test Port to Waveguide Adapters Available



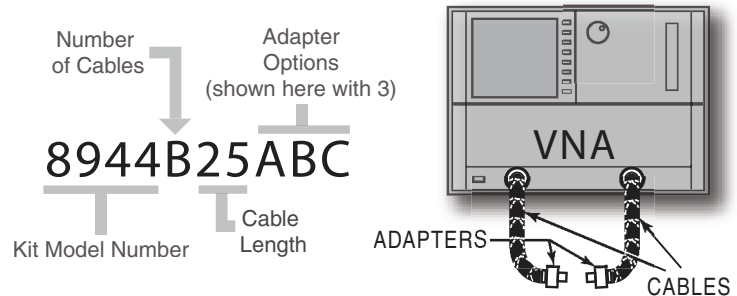
Description

Maury 8944, 8946 and 8948 series test port cable and adapter kits replace multiple cables in various connector types with a versatile and cost effective alternative. The cable assemblies extend the test ports of network analyzers, and have a rugged female and male test port connector at each end. They come in standard lengths of 25 or 38 inches and are extremely flexible while maintaining excellent phase and amplitude stability.

The adapters also have a rugged test port connector on one side with a precision 2.4mm, 2.92mm, 3.5mm, 7mm, N, TNC or waveguide connector (EIA WR229 to WR28) on the other side. Some options include NMD to NMD adapters. Each kit includes up to three user-specified adapter sets (see pages 135-136). Kits with more than three adapter sets can be configured as special orders. Individual adapters can also be purchased separately.

Ordering Options

To specify the test port cable and adapter options you need, add the appropriate letters and numbers to the end of the kit model number (as shown in the diagram at right). The first letter indicates the number of cables desired (A = one cable; B = 2 cables). After it, add the desired cable length (25-inch or 38-inch). Next add the appropriate letters to indicate the desired adapter options (from the tables on pages 135-136). One, two, or three adapter options may be ordered with standard kits. Additional adapters are available in custom configured kits.



Available Models – Kits

KIT MODEL	TYPE	CABLE LENGTH		CABLES PER KIT	FREQUENCY RANGE (GHz)	CABLE O.D. (NOMINAL)		BEND RADIUS (MINIMUM)		NOMINAL IMPEDANCE
		INCHES	(CM)			INCHES	(CM)	INCHES	(CM)	
8946A25 (*) (*) (*)	NMD2.4mm	25.0	(63.5)	1	DC — 50.0	0.6	(1.524)	2.5	(6.35)	50 ohm
8946B25 (*) (*) (*)	NMD2.4mm	25.0	(63.5)	2						
8946A38 (*) (*) (*)	NMD2.4mm	38.0	(96.5)	1						
8946B38 (*) (*) (*)	NMD2.4mm	38.0	(96.5)	2						
8946C25	NMD2.4mm	25.0	(63.5)	1						
8946C38	NMD2.4mm	38.0	(96.5)	1						
8944A25 (*) (*) (*)	NMD3.5mm	25.0	(63.5)	1	DC — 26.5	0.6	(1.524)	2.5	(6.35)	50 ohm
8944B25 (*) (*) (*)	NMD3.5mm	25.0	(63.5)	2						
8944A38 (*) (*) (*)	NMD3.5mm	38.0	(96.5)	1						
8944B38 (*) (*) (*)	NMD3.5mm	38.0	(96.5)	2						
8944C25	NMD3.5mm	25.0	(63.5)	1						
8944C38	NMD3.5mm	38.0	(96.5)	1						
8948A25 (*) (*) (*)	7mm	25.0	(63.5)	1	DC — 18.0	0.6	(1.524)	2.5	(6.35)	50 ohm
8948B25 (*) (*) (*)	7mm	25.0	(63.5)	2						
8948A38 (*) (*) (*)	7mm	38.0	(96.5)	1						
8948B38 (*) (*) (*)	7mm	38.0	(96.5)	2						
8948C25	7mm	25.0	(63.5)	1						
8948C38	7mm	38.0	(96.5)	1						

(*) Insert adapter option letters from the Adapter Options table on page 135.

NOTE: 8946C, 8944C and 8948C models are cables only without adapters.

Key Literature: Maury data sheet 2Z-001, 2Z-001A and 2Z-003.

Test Port Cable and Adapter Kits

Cable Specifications

Specifications (25-inch Length Cables)

Standard 25-inch cables in Maury 8944, 8946 and 8948 series test port cable and adapter kits have the following specifications:

Frequency Range:

- 8946 series DC – 50.0 GHz
- 8944 series DC – 26.5 GHz
- 8948 series DC – 18.0 GHz

Insertion Loss (dB):

- 8946 series Typical = $0.05 + 0.30(f)^{1/2} + 0.010(f)$
Guaranteed = $0.25 + 0.35(f)^{1/2} + 0.015(f)$
- 8944 & 8948 series Typical = $0.05 + 0.30(f)^{1/2} + 0.010(f)$
Guaranteed = $0.25 + 0.35(f)^{1/2} + 0.015(f)$

Return Loss (dB):

- 8946 series 15
- 8944 & 8948 series 18

Overall Phase Stability (degrees): Typical = $0.05(f)$
Guaranteed = $0.5 + 0.08(f)$

Overall Amplitude Stability (dB): Typical = ≤ 0.03
Guaranteed = ≤ 0.08

Return Loss Stability (dB): ≥ 40

Specifications (38-inch Length Cables)

Standard 38-inch cables in Maury 8944, 8946 and 8948 series test port cable and adapter kits have the following specifications:

Frequency Range:

- 8946 series DC – 50.0 GHz
- 8944 series DC – 26.5 GHz
- 8948 series DC – 18.0 GHz

Insertion Loss (dB): Typical = $0.044 + 0.47(f)^{1/2} + 0.014(f)$
Guaranteed = $0.290 + 0.51(f)^{1/2} + 0.017(f)$

Return Loss (dB):

- 8946 series 15
- 8944 & 8948 series 18

Overall Phase Stability (degrees): Typical = $0.10(f)$
Guaranteed = $0.5 + 0.17(f)$

Overall Amplitude Stability (dB): Typical = ≤ 0.05
Guaranteed = ≤ 0.15

Return Loss Stability (dB): ≥ 40

Adapter Options

NMD2.4mm Adapter Models and Set Options

ADAPTER MODEL	ADAPTS		QUANTITY PER SET	OPTION CODE
	SIDE A	SIDE B		
7909A1	NMD2.4mm (f)	2.4mm (f)	1	A
7909A2	NMD2.4mm (f)	2.4mm (m)	1	
7909B1	NMD2.4mm (f)	3.5mm (f)	1	B
7909B2	NMD2.4mm (f)	3.5mm (m)	1	
7909C	NMD2.4mm (f)	APC7	2	C
7909D1	NMD2.4mm (f)	Type N (f)	1	D
7909D2	NMD2.4mm (f)	Type N (m)	1	
7909F1	NMD2.4mm (f)	2.92mm (f)	1	E
7909F2	NMD2.4mm (f)	2.92mm (m)	1	

NMD3.5mm Adapter Models and Set Options

ADAPTER MODEL	ADAPTS		QUANTITY PER SET	OPTION CODE
	SIDE A	SIDE B		
8009A	NMD3.5mm (f)	3.5mm (f)	1	A
8009B	NMD3.5mm (f)	3.5mm (m)	1	
2633C	NMD3.5mm (f)	7mm	2	B
8829A	NMD3.5mm (f)	Type N (f)	1	C
8829B	NMD3.5mm (f)	Type N (m)	1	
8619A	NMD3.5mm (f)	TNC (f)	1	D
8619B	NMD3.5mm (f)	TNC (m)	1	
2433A1	NMD3.5mm (f)	14mm	2	E
H230K1	NMD3.5mm (f)	WR112	2	F
X230K1	NMD3.5mm (f)	WR90	2	G
M230K1	NMD3.5mm (f)	WR75	2	H
P230K1	NMD3.5mm (f)	WR62	2	J
N230K3	NMD3.5mm (f)	WR51	2	K
K230K6	NMD3.5mm (f)	WR42	2	L

7mm Adapter Models and Set Options

ADAPTER MODEL	ADAPTS		QUANTITY PER SET	OPTION CODE
	SIDE A	SIDE B		
8022A1	7mm	3.5mm (f)	1	A
8022B1	7mm	3.5mm (m)	1	
2633A	7mm	7mm (f)	2	B
2606C	7mm	Type N (f)	1	C
2606D	7mm	Type N (m)	1	
2622A1	7mm	TNC (f)	1	D
2622B	7mm	TNC (m)	1	
2607A1	7mm	14mm	2	E

Test Port Cable and Adapter Kits

Adapter Specifications

Coaxial to Coaxial Test Port Adapter Specifications

ADAPTER MODEL	ADAPTS		FREQUENCY RANGE AND MAXIMUM VSWR (GHZ)				NOMINAL IMPEDANCE	OVERALL LENGTH	
	SIDE A	SIDE B						INCHES	(CM)
7909A1 ¹	NMD2.4mm female	2.4mm female	DC	—	26.5	≤ 1.10	50 ohm	1.48	(3.76)
7909A2 ¹	NMD2.4mm female	2.4mm male	26.5	—	40.0	≤ 1.15			
7909B1	NMD2.4mm female	3.5mm female	40.0	—	50.0	≤ 1.20	50 ohm	1.51	(3.84)
7909B2	NMD2.4mm female	3.5mm female	DC	—	10.0	≤ 1.06	50 ohm	1.26	(3.20)
			10.0	—	20.0	≤ 1.10			
			20.0	—	34.0	≤ 1.12			
7909C	NMD2.4mm female	7mm	DC	—	10.0	≤ 1.05	50 ohm	2.16	(5.49)
			10.0	—	20.0	≤ 1.07			
			20.0	—	34.0	≤ 1.10			
7909D1	NMD2.4mm female	Type N female	DC	—	10.0	≤ 1.08	50 ohm	1.80	(4.57)
7909D2	NMD2.4mm female	Type N female	10.0	—	20.0	≤ 1.12	50 ohm	1.84	(4.67)
			20.0	—	34.0	≤ 1.14			
7909F1	NMD 2.4mm female	2.92mm (K) female	DC	—	20.0	≤ 1.10	50 ohm	1.44	(3.66)
7909F2	NMD 2.4mm female	2.92mm (K) male	20.0	—	40.0	≤ 1.16	50 ohm	1.48	(3.76)
7909H	NMD 2.4mm female	NMD 3.5mm male	DC	—	10.0	≤ 1.06	50 ohm	1.49	(3.79)
			10.0	—	20.0	≤ 1.10			
			20.0	—	34.0	≤ 1.14			
8009A	NMD 3.5mm female	3.5mm female	DC	—	18.0	≤ 1.08	50 ohm	1.45	(3.68)
8009B	NMD 3.5mm female	3.5mm male	18.0	—	26.5	≤ 1.12	50 ohm	1.49	(3.79)
2633C	NMD 3.5mm female	7mm	DC	—	18.0	≤ 1.018 + 0.003f	50 ohm	1.86	(4.72)
8829A	NMD 3.5mm female	Type N female	DC	—	6.0	≤ 1.04	50 ohm	2.04	(5.18)
8829B	NMD 3.5mm female	Type N male	6.0	—	18.0	≤ 1.08	50 ohm	2.20	(5.59)
2433A1	NMD 3.5mm female	14mm (GR900 equiv)	DC	—	8.5	≤ 1.01 + 0.008f	50 ohm	2.32	(5.89)
8022A1	3.5mm female	7mm	DC	—	4.0	≤ 1.04	50 ohm	1.67	(4.24)
8022B1	3.5mm male	7mm	4.0	—	18.0	≤ 1.08	50 ohm	1.67	(4.24)
2633A	7mm	7mm "female"	DC	—	18.0	≤ 1.004 + 0.003f	50 ohm	1.62	(4.12)
2606C	7mm	Type N female	DC	—	4.0	≤ 1.03	50 ohm	1.51	(3.84)
			4.0	—	9.0	≤ 1.04			
2606D	7mm	Type N male	9.0	—	18.0	≤ 1.07	50 ohm	1.51	(3.84)
2622A1	7mm	TNC female	DC	—	4.0	≤ 1.05	50 ohm	1.68	(4.26)
2622B	7mm	TNC male	4.0	—	18.0	≤ 1.15	50 ohm	1.55	(3.94)
2607A1	7mm	14mm (GR900 equiv)	DC	—	8.5	≤ 1.004 + 0.004f	50 ohm	2.01	(5.10)

Waveguide to Coaxial Test Port Adapter Specifications

ADAPTER MODEL	ADAPTS		FREQUENCY RANGE AND MAXIMUM VSWR (GHZ)				EQUIVALENT FLANGE	OVERALL LENGTH	
	SIDE A	SIDE B						INCHES	(CM)
E230K1 ²	NMD3.5mm female	EIA WR229	3.3	—	4.9	≤ 1.10	CPR229F	3.88	(9.86)
G230K1 ²	NMD3.5mm female	EIA WR187	3.95	—	5.85	≤ 1.10	UG149/U	3.88	(9.86)
F230K1	NMD3.5mm female	EIA WR159	4.9	—	7.05	≤ 1.10	CPR159F	3.40	(8.64)
C230K1	NMD3.5mm female	EIA WR137	8.85	—	8.20	≤ 1.10	UG344/U	3.13	(7.95)
H230K1	NMD3.5mm female	EIA WR112	7.05	—	10.0	≤ 1.10	UG51/U	2.98	(7.57)
X230K1	NMD3.5mm female	EIA WR90	8.2	—	12.4	≤ 1.10	UG39/U	2.73	(6.93)
M230K1	NMD3.5mm female	EIA WR75	10.0	—	15.0	≤ 1.10	MPF75	2.63	(6.68)
P230K1	NMD3.5mm female	EIA WR62	12.4	—	18.0	≤ 1.10	UG419/U	2.38	(6.05)
N230K3	NMD3.5mm female	EIA WR51	15.0	—	22.0	≤ 1.20	MPF51	2.00	(5.08)
K230K6	NMD3.5mm female	EIA WR42	18.0	—	26.5	≤ 1.15	UG595/U	1.80	(4.57)
U233E ³	NMD2.92mm female	EIA WR28	26.5	—	40.0	≤ 1.30	UG599/U	1.80	(4.57)

¹ 7909A1 and 7909A2 are phase matched for VNA applications.

³ Mates with the special (K) connector provided on Anritsu 360 VNA.

² These Larger waveguide adapters should not be directly connected to test sets without support.