Agilent 772D, 773D

Directional Couplers 2 to 18 GHz

Technical Overview

New Performance Standards in Microwave Couplers

The Agilent Technologies 772D dual directional coaxial coupler and 773D directional coupler are high directivity couplers designed for broadband swept reflectometer measurements and leveling applications in the 2 to 18 GHz frequency range. With their wide frequency coverage, one of these couplers can replace several couplers without performance degradation, thus adding convenience and economy by reducing setup and calibration time. The high directivity and low main line SWR make it possible to achieve excellent source match. The smaller size and light weight of the 773D directional coupler make it much easier to use on the bench. The addition of threaded mounting holes makes it an ideal candidate for use inside equipment in leveling loop applications. Low SWR and flat coupling variation from 2 to 18 GHz and high power capability make these couplers ideal for your most demanding measurement needs.

		Agilent 772D	Agilent 773D
Description		Dual directional coupler	Directional coupler
Frequency range		2 to 18 GHz	2 to 18 GHz
Minimum directivity		39 dB (0.1 – 2 GHz) typical 30 dB (2 – 12.4 GHz) 27 dB (12.4 – 18 GHz) 20 dB (18 – 20 GHz) typical	39 dB (0.1 – 2 GHz) typical 30 dB (2 – 12.4 GHz) 27 dB (12.4 – 18 GHz) 21 dB (18 – 20 GHz) typical
Maximum main line SWR		1.05 dB (0.1 – 2 GHz) typical 1.28 dB (2 – 12.4 GHz) 1.40 dB (12.4 – 18 GHz) 1.29 dB (18 – 20 GHz) typical	1.04 dB (0.1 – 2 GHz) typical 1.21 dB (2 – 12.4 GHz) 1.27 dB (12.4 – 18 GHz) 1.16 dB (18 – 20 GHz) typical
Maximum coupled line SWR		1.08 dB (0.1 – 2 GHz) typical 1.30 dB (2 – 12.4 GHz) 1.40 dB (12.4 – 18 GHz) 1.17 dB (18 – 20 GHz) typical	1.07 dB (0.1 – 2 GHz) typical 1.30 dB (2 – 12.4 GHz) 1.40 dB (12.4 – 18 GHz) 1.17 dB (18 – 20 GHz) typical
Nominal coupling (dB)		20 dB (2 – 18 GHz)	20 dB (2 – 18 GHz)
Max. coupling variation with Freq.		<±1.0 dB (2 – 18 GHz)	<±I.0 dB (2 – 18 GHz)
Tracking between auxiliary arms		<±0.7 dB*+	N/A+
Maximum main line residual loss		<0.26 dB (0.1 – 2GHz) typical <1.5 dB (2 – 18 GHz)	< 0.15 dB (0.1 – 2 GHz) typical <0.9 dB (2 – 18 GHz) <0.9 dB (18 – 20 GHz) typical
Main line power handling capability	0.1–2 GHz	100 W (50 dBm) average typical	100 W (50 dBm) average typical
	2–18 GHz	250 W (54 dBm) peak typical 50 W (47 dBm) average 250 W (54 dBm) peak	250 W (54 dBm) peak typical 50 W (47 dBm) average 250 W (54 dBm) peak
	18–20 GHz	N/A N/A	50 W (47 dBm) average typical 250 W (54 dBm) peak typical
Net weight		2.6 kg	0.8 kg
Dimensions (cm)		39.1 (L) x 13.34 (W) x 4.13 (H)	18.4 (L) x 10.5 (W) x 3.0 (H)

* With test port shorted and not including source match ripple.
\+ Typical relative tracking between 772D and 773D is <±0.7 dB.

Agilent Technologies

Connectors

Agilent 772D

Test port APC-7; input, incident, and reflected ports Type-N (F)

Agilent 773D

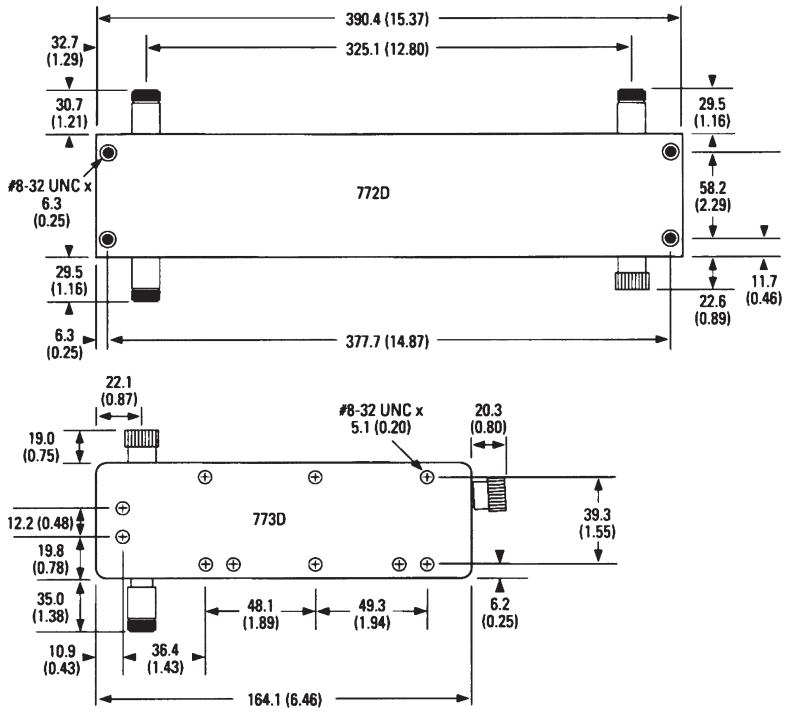
Input and output ports APC-7; coupled port Type-N (F)

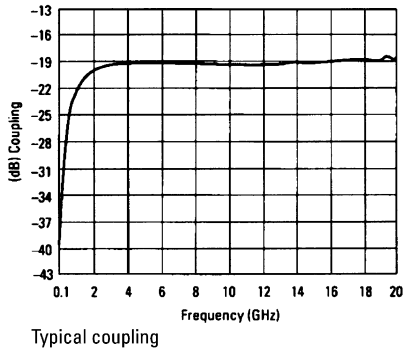
Agilent 772D, 773D Option 001

All connectors Type-N (F)

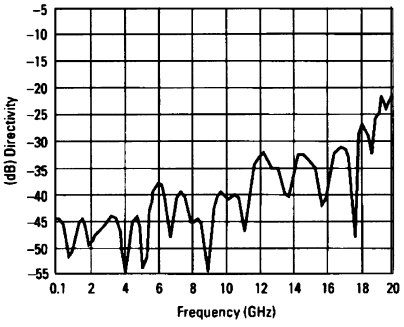
Outline Drawings

Dimensions in millimeters (inches)





Typical coupling



Typical directivity

Agilent Technologies' Test and Measurement Support, Services, and Assistance

Agilent Technologies aims to maximize the value you receive, while minimizing your risk and problems. We strive to ensure that you get the test and measurement capabilities you paid for and obtain the support you need. Our extensive support resources and services can help you choose the right Agilent products for your applications and apply them successfully. Every instrument and system we sell has a global warranty. Support is available for at least five years beyond the production life of the product. Two concepts underlie Agilent's overall support policy: "Our Promise" and "Your Advantage."

Our Promise

Our Promise means your Agilent test and measurement equipment will meet its advertised performance and functionality. When you are choosing new equipment, we will help you with product information, including realistic performance specifications and practical recommendations from experienced test engineers. When you use Agilent equipment, we can verify that it works properly, help with product operation, and provide basic measurement assistance for the use of specified capabilities, at no extra cost upon request. Many self-help tools are available.

Your Advantage

Your Advantage means that Agilent offers a wide range of additional expert test and measurement services, which you can purchase according to your unique technical and business needs. Solve problems efficiently and gain a competitive edge by contracting with us for calibration, extra-cost upgrades, out-of-warranty repairs, and onsite education and training, as well as design, system integration, project management, and other professional engineering services. Experienced Agilent engineers and technicians worldwide can help you maximize your productivity, optimize the return on investment of your Agilent instruments and systems, and obtain dependable measurement accuracy for the life of those products.

Phone or Fax
United States:
(tel) 800 452 4844
Canada:
(tel) 877 894 4414
(fax) 905 282 6495
China:
(tel) 800 810 0189
(fax) 800 820 2816
Europe:
(tel) (31 20) 547 2323
(fax) (31 20) 547 2390
Japan:
(tel) (81) 426 56 7832
(fax) (81) 426 56 7840
Korea:
(tel) (82 2) 2004 5004
(fax) (82 2) 2004 5115
Latin America:
(tel) (305) 269 7500
(fax) (305) 269 7599
Taiwan:
(tel) 0800 047 866
(fax) 0800 286 331
Other Asia Pacific Countries:
(tel) (65) 6375 8100
(fax) (65) 6836 0252
Email:
tm_asia@agilent.com

Agilent T&M Software and Connectivity

Agilent's Test and Measurement software and connectivity products, solutions and developer network allows you to take time out of connecting your instruments to your computer with tools based on PC standards, so you can focus on your tasks, not on your connections. Visit **www.agilent.com/find/connectivity** for more information.

By internet, phone, or fax, get assistance with all your test & measurement needs
Online Assistance:
www.agilent.com/find/assist

Product specifications and descriptions in this document subject to change without notice.

Printed in USA, December 10, 2002
5959-8753

Agilent Email Updates

www.agilent.com/find/emailupdates
Get the latest information on the products and applications you select.

Agilent Technologies