

Keysight 16195B Calibration Kit

NOTICE: This document contains references to Agilent Technologies. Agilent's former Test and Measurement business has become Keysight Technologies. For more information, go to **www.keysight.com**.



Notices

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Manual Printing History

The manual's printing date and part number indicate its current edition. The printing date changes when a new edition is printed. (Minor corrections and updates that are incorporated at reprint do not cause the date to change.) The manual part number changes when extensive technical changes are incorporated.

December 1999	Edition 1
March 2001	Edition 2
October 2006	Edition 3
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Safety Summary

The following general safety precautions must be observed during all phases of operation, service, and repair of this instrument. Failure to comply with these precautions or with specific WARNINGS elsewhere in this manual may impair the protection provided by the equipment. In addition it violates safety standards of design, manufacture, and intended use of the instrument.

Keysight Technologies Company assumes no liability for the customer's failure to comply with these requirements.

NOTE

16195B comply with INSTALLATION CATEGORY II and POLLUTION DEGREE 2 in IEC61010-1. 16195B are INDOOR USE product.

- **DO NOT Operate In An Explosive Atmosphere**
Do not operate the instrument in the presence of flammable gasses or fumes. Operation of any electrical instrument in such an environment constitutes a definite safety hazard.
- **DO NOT Substitute Parts Or Modify Instrument**
Because of the danger of introducing additional hazards, do not install substitute parts or perform unauthorized modifications to the instrument. Return the instrument to a Hewlett-Packard Sales and Service Office for service and repair to ensure that safety features are maintained.
- **Dangerous Procedure Warnings**
Warnings, such as the example below, precede potentially dangerous procedures throughout this manual. Instructions contained in the warnings must be followed.

Safety Symbol

General definitions of safety symbols used on the instrument or in manuals are listed below.

WARNING

This warning sign denotes a hazard. It calls attention to a procedure, practice, condition or the like, which, if not correctly performed or adhered to, could result in injury or death to personnel.

CAUTION

This Caution sign denotes a hazard. It calls attention to a procedure, practice, condition or the like, which, if not correctly performed or adhered to, could result in damage to or destruction of part or all of the product.

NOTE

Note denotes important information. It calls attention to a procedure, practice, condition or the like, which is essential to highlight.

Certification

Keysight Technologies certifies that this product met its published specifications at the time of shipment from the factory. Keysight Technologies further certifies that its calibration measurements are traceable to the United States National Institute of Standards and Technology, to the extent allowed by the Institution's calibration facility, or to the calibration facilities of other International Standards Organization members.

Warranty

This Keysight Technologies instrument product is warranted against defects in material and workmanship for a period corresponding to the individual warranty periods of its component products. Instruments are warranted for a period of one year. Fixtures and adapters are warranted for a period of 90 days. During the warranty period, Keysight Technologies will, at its option, either repair or replace products that prove to be defective.

For warranty service or repair, this product must be returned to a service facility designated by Keysight Technologies. Buyer shall prepay shipping charges to Keysight Technologies and Keysight Technologies shall pay shipping charges to return the product to Buyer. However, Buyer shall pay all shipping charges, duties, and taxes for products returned to Keysight Technologies from another country.

Keysight Technologies warrants that its software and firmware designated by Keysight Technologies for use with an instrument will execute its programming instruction when properly installed on that instrument. Keysight Technologies does not warrant that the operation of the instrument, or software, or firmware will be uninterrupted or error free.

Limitation of Warranty

The foregoing warranty shall not apply to defects resulting from improper or inadequate maintenance by Buyer, Buyer-supplied software or interfacing, unauthorized modification or misuse, operation outside the environmental specifications for the product, or improper site preparation or maintenance.

IMPORTANT

No other warranty is expressed or implied. Keysight Technologies specifically disclaims the implied warranties of merchantability and fitness for a particular purpose.

Exclusive Remedies

The remedies provided herein are buyer's sole and exclusive remedies. Keysight Technologies shall not be liable for any direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any other legal theory.

Assistance

Product maintenance agreements and other customer assistance agreements are available for Keysight Technologies products.

For any assistance, contact your nearest Keysight Technologies Sales and Service Office. Addresses are provided at the back of this manual.

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General Information

This chapter provides Keysight Technologies 16195B description, characteristics and related general information.

Description

Keysight 16195B is a calibration kit for Keysight 4287A RF LCR Meter or E4991A impedance / material analyzer. The calibration using the Keysight 16195B is performed on the 7 mm connector plane.

Kit Contents

The calibration kit contents are listed in [Table 1-1](#).

Table 1-1 **Contents of the 16195B**

Description	Keysight Part No.	Qty.
50 Ω Termination	04287-60021	1
Open Termination	E4991-60022	1
Short Termination	E4991-60021	1
Low-Loss Capacitor	04287-60022	1
Carrying Case	16195-60002	1
Operation Note (This manual)	16195-90020	1

Initial Inspection

Inspect the shipping container for damage. If the shipping container or cushioning material is damaged, it should be kept until the shipping contents have been checked for completeness and the performance test kit has been checked mechanically and electrically. The shipping contents should consist of the items shown in [Table 1-1](#). If the shipment is incomplete, or if there is mechanical damage or other defects, notify your nearest Keysight Technologies office. If the shipping container is damaged, or the cushioning material shows signs of stress, notify the carrier as well as the Keysight Technologies office. Keep the shipping materials for the carrier's inspection.

Characteristics

This section provides the characteristics of the Keysight 16195B calibration kit.

Electrical Characteristic

Nominal Values of the kit are in [Table 1-2](#).

Table 1-2 **Nominal Values**

OPEN Conductance	0 S
OPEN Capacitance	82 fF
SHORT Resistance	0 Ω
SHORT inductance	0 H
50 Ω resistance	50 Ω
50 Ω inductance	0 H

NOTE The low loss capacitor does not have a defined value.

Operating Conditions

The calibration kit must be operated under the ambient environmental conditions in [Table 1-3](#).

Table 1-3 **Operating Conditions**

Temperature	23 °C $\pm$ 5 °C
Relative Humidity	$\leq$ 70 % at 28 °C
Altitude	0 m to 4500 m

Storage Conditions

The calibration kit must be stored under the ambient environmental conditions in [Table 1-4](#).

Table 1-4 **Storage Conditions**

Temperature	- 40 °C to + 75 °C
Relative Humidity	$\leq$ 95 % at 40 °C
Altitude	0 m to 15000 m

Carrying Case Dimensions

The carrying case dimensions are;

350 mm (W) × 100 mm (H) × 270 mm (D)

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Service

This chapter provides information of 16195B service.

Service

If your calibration kit requires service, contact the Keysight Technologies office nearest you. When you send the kit to Keysight Technologies, please provide following information.

- Your company name and address
- A technical contact person within your company, and the person's phone and fax number
- The model number and serial number of the kit
- The type of the service required
- A detailed description of the problem

REGIONAL SALES AND SUPPORT OFFICES

For more information about Keysight Technologies test and measurement products, applications, services, and for a current sales office listing, visit our web site: <http://www.keysight.com/find/tmdir>. You can also contact one of the following centers and ask for a test and measurement sales representative.

21/01/2004

United States:

Test and Measurement Call Center
(tel) 1 800 452-4844
(fax) 1 888 900-8921

Australia/New Zealand:

(tel) (61 3) 9210-5555 (Australia)
(fax) (61 3) 9210-5899
(tel) (64 4) 939-0636 (New Zealand)
(fax) (64 4) 972-5364

Canada:

Test and Measurement Call Center
(tel) 1 877 894-4414
(fax) 1 888 900-8921

Asia Pacific:

(tel) (65) 6375-8100
(fax) (65) 6836-0252
Email: tm_asia@keysight.com

China:

(tel) 800 810-0189
(fax) 800 820-2816

Europe:

(tel) (31 20) 547-2323
(fax) (31 20) 547-2390

Japan:

Call Center
(tel) 0120 421-345
(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

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