

Operating and Service Manual

Agilent Technologies 85022A System Cable Kit



Agilent Technologies

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Description

The Agilent Model 85022A System Cable Kit is a set of three GP-IB cables and four BNC cables that provide the necessary interconnections in a GPIB controlled network analyzer system.

The three identical Model 10833A GP-IB cables feature an improved shielding design to help improve RFI levels in systems, exhibiting significantly lower radiated emissions than previous GP-IB cables. The connector block at both ends of each GP-IB cable has a plug on one side and a matching receptacle on the other, so that several cables may be conveniently connected in parallel, thus simplifying system interconnection. ISO metric-threaded lock screws provide for secure mounting of each connector block to a GP-IB instrument or to another cable connector block.

Four BNC 50-ohm coaxial cables are supplied, terminated on both ends with BNC (m) connectors. These include three Model 11170B, 61 cm (24 in.) cables and one Model 11170C, 122 cm (48 in.) cable. The longer cable is used to supply a modulation drive signal from the network analyzer to a synthesized sweeper.

Characteristics

The 85022A System Cable Kit consists of seven cables with the following characteristics:

Three GP-IB Cables	One BNC Cable	Three BNC Cables
Agilent Part No. 85022-20001^a	Agilent Part No. 8120-1840^a	Agilent Part No. 8120-1839^a
Agilent Model No. 10833A	Agilent Model No. 11170C	Agilent Model No. 11170B
Length: 1 m. (3.3 ft.)	Length: 122 cm. (48 in.)	Length: 61 cm. (24 in.)
—	Impedance: 50 ohms	Impedance: 50 ohms
—	Connectors: BNC (m)	Connectors: BNC (m)

- a. Use this Agilent part number rather than the model number when re-ordering the GP-IB cables, to expedite faster replacement.

Other Equipment Available

GP-IB and BNC cables are also available in various lengths as follows:

GP-IB			BNC	
Length	Part Number	Model Number	Length	Model Number
0.5 m. (1.6 ft.)	8120-3444 ^a	10833D	30 cm. (12 in.)	11170A
2 m. (6.6 ft.)	8120-3446 ^a	10833B		
4 m. (13.2 ft.)	8120-3447 ^a	10833C		

- a. Use this Agilent part number rather than the model number when re-ordering the GP-IB cables, to expedite faster replacement.

The Model 10834A adapter is a shielded GP-IB to GP-IB adapter. It provides additional clearance between the GP-IB cable and the rear panel of the instrument. This allows easier access to switches, cables, and other connectors that may be in close proximity to the GP-IB connector.

Visual Inspection

Visual inspection and, if necessary, cleaning should be done every time a connection is made. Metal particles from the connector threads may fall onto the mating plane surface of the connector when it is disconnected. One connection made with a dirty or damaged connector can damage both connectors beyond repair.

Magnification is helpful when inspecting connectors, but it is not required and may actually be misleading. Defects and damage that cannot be seen without magnification generally have no effect on electrical or mechanical performance. Magnification is of great use in analyzing the nature and cause of the damage and in cleaning connectors, but it is not required for inspection. Use the following guidelines when evaluating the integrity of a connector.

Look for Obvious Defects and Damage First

Examine the connector first for obvious defects and damage: badly worn plating on the connector interface, deformed threads, or bent, broken, or misaligned center conductors. Connector nuts should move smoothly and be free of burrs, loose metal particles, and rough spots.

What Causes Connector Wear?

Connector wear is caused by connecting and disconnecting the cable. The more use a connector gets, the faster it wears and degrades. The wear is greatly accelerated when connectors are not kept clean, or are connected incorrectly.

Connector wear eventually degrades performance of the cable. Replace cables with worn connectors.

The test port connectors on the network analyzer test set may have many connections each day, and are therefore also subject to wear. It is recommended that an adapter be used as a test port saver to minimize the wear on the test set's test port connectors.

Inspect the Mating Plane Surfaces

Flat contact between the connectors at all points on their mating plane surfaces is required for a good connection. Look especially for deep scratches or dents, and for dirt and metal particles on the connector mating plane surfaces. Also look for signs of damage due to excessive or uneven wear or misalignment.

Light burnishing of the mating plane surfaces is normal, and is evident as light scratches or shallow circular marks distributed more or less uniformly over the mating plane surface. Other small defects and cosmetic imperfections are also normal. None of these affect electrical or mechanical performance.

If a connector shows deep scratches or dents, particles clinging to the mating plane surfaces, or uneven wear, clean and inspect it again. Cables with damaged connectors should be repaired or discarded. Determine the cause of damage before connecting a new, undamaged connector in the same configuration.
