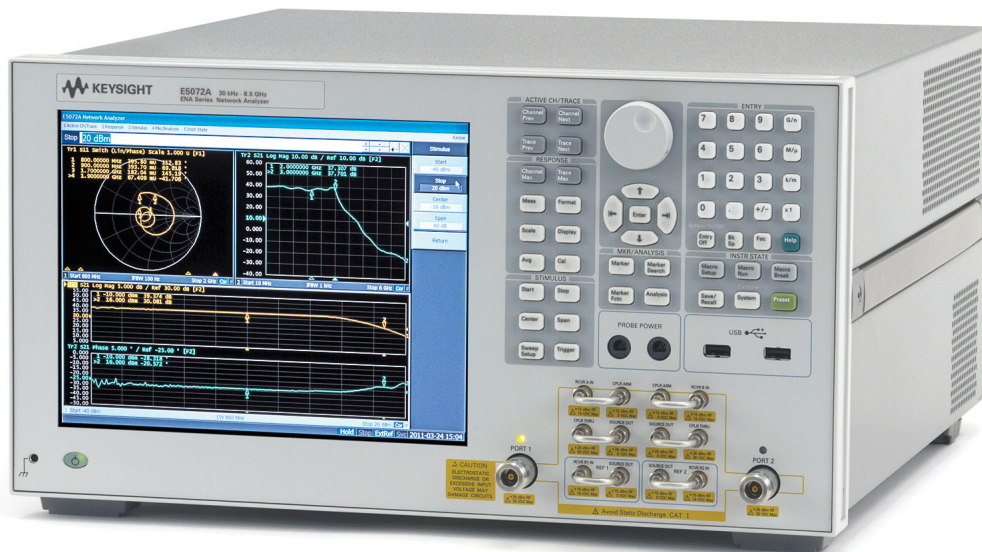


Keysight Technologies

E5072A ENA Series Network Analyzer

30 kHz to 4.5/8.5 GHz

Configuration Guide



Unlocking Measurement Insights

## Ordering Guide

The following steps will guide you through configuring your E5072A.

### Standard furnished item

Description	Additional information
Installation guide	Contains the information necessary to start up with the E5072A.
Power Cable	
Calibration of Certification	
IO LIBRARIES MEDIA SUITE	

### Step 1. Choose test set option (Mandatory. Select one)

Option no	Description
E5072A-245	2-port, 30 kHz to 4.5 GHz, configurable test set
E5072A-285	2-port, 30 kHz to 8.5 GHz, configurable test set

### Step 2. Choose software option (Optional. If not required, go to step 3)

Option no	Description
E5072A-006	Wireless power transfer analysis
E5072A-008	Frequency offset mode
E5072A-010	Time domain analysis

### Step 3. Choose time base option (Mandatory. Select one)

Option no	Description
E5072A-UNQ	Standard stability time base
E5072A-1E5	High stability time base

### Step 4. Choose hard disk drive option (Mandatory. Select one)

Option no	Description
E5072A-017	Removable hard disk drive
E5072A-019	Standard hard disk drive

Step 5. Choose accessory option (Optional. If not required, go to step 6)

Option no	Description
E5072A-1CM	Rack mount kit
E5072A-1CN	Front handle kit
E5072A-1CP	Rack mount and Front handle kit
E5072A-810	Add keyboard
E5072A-820	Add mouse

Step 6. Choose calibration option (Optional)

Option no	Description
E5072A-1A7	ISO 17025 compliant calibration
E5072A-A6J	ANSI Z540 compliant calibration

## Test Accessories and Calibration Kits

Test accessories and calibration kits that can be used with the E5072A are listed in this section. A complete line of test accessories and calibration kits can be found at the Keysight RF and Microwave Test Accessories Web site: [www.keysight.com/find/accessories](http://www.keysight.com/find/accessories)

### Test accessories

Test accessories such as test port cable are necessary for a complete measurement system using the E5072A. Order test accessories in accordance with the desired measurement system.

### Calibration kits

Calibration is an accuracy enhancement procedure that effectively reduces the system errors that cause uncertainty in network measurement. Calibration kit is necessary to perform the calibration.

- Mechanical calibration kits include standards, such as opens, shorts and loads, which are measured by the network analyzer. Choose a calibration kit for each connector type to be used.
- Electronic calibration (ECal) modules replace mechanical calibration standards with one solid-state calibration module that is controlled by the network analyzer via USB. ECal modules provide many different impedances to the test ports which enables a full two-port calibration to be performed quickly with a single connection. This technique reduces operator errors and connector wear and abrasion.

### Test accessories

Model No	Description
Test port cable	
N6314A	50 $\Omega$ type-N (m) to type-N (m) cable, DC to 12.4 GHz, 61 cm (24 in)
N6315A	50 $\Omega$ type-N (m) to type-N (f) cable, DC to 12.4 GHz, 61 cm (24 in)
11500E	3.5 mm (m) to 3.5 mm (m) cable, 61 cm (24 in)
11500F	3.5 mm (m) to 3.5 mm (m) cable, 152 cm (60 in)
Accessory kit	
11853A	50 $\Omega$ type-N accessory kit. Includes; <ul style="list-style-type: none"> <li>- Type-N (f) to type-N (f) adapter (2 qty.)</li> <li>- Type-N (m) to type-N (m) adapter (2 qty.)</li> <li>- Type-N (f) short</li> <li>- Type-N (m) short</li> </ul>
Adapter kit	
11878A	50 $\Omega$ type-N to 3.5 mm adapter kit. Includes; <ul style="list-style-type: none"> <li>- 3.5 mm (m) to type-N (m) adapter</li> <li>- 3.5 mm (f) to type-N (f) adapter</li> <li>- 3.5 mm (f) to type-N (m) adapter</li> <li>- 3.5 mm (m) to type-N (f) adapter</li> </ul>
Active probe	
85024A	300 kHz to 3 GHz active probe. Includes; <ul style="list-style-type: none"> <li>- Probe tip to type-N Adapter</li> <li>- 10:1 divider</li> <li>- Hook tip adapter</li> <li>- Slip-on tip adapter</li> <li>- Leads</li> </ul>

## Test accessories (continued)

Model No	Description
Power limiters	
N9355B	Power limiter, 10 dBm limiting threshold, 10 MHz to 18 GHz, Type-N
N9356B	Power limiter, 25 dBm limiting threshold, 10 MHz to 18 GHz, Type-N
DC block	
N9398C	DC block, 16 V maximum working voltage, 50 kHz to 26.5 GHz, 3.5 mm
N9399C	DC block, 50 V maximum working voltage, 700 kHz to 26.5 GHz, 3.5 mm
Amplifiers	
87405B	Pre-amplifier, 22 dB gain, 10 MHz to 4 GHz
87415A	Pre-amplifier, 25 dB gain, 2 to 8 GHz
Attenuators	
8491A	Fixed attenuator, DC to 12.4 GHz, Type-N
8493A	Fixed attenuator, DC to 12.4 GHz, SMA
Power meter and sensors <sup>1</sup>	
E4416A <sup>1</sup>	Single-channel EPM-P series power meter.
E4417A <sup>1</sup>	Dual-channel EPM-P series power meter
E4418B <sup>1</sup>	Single-channel EPM series power meter
E4419B <sup>1</sup>	Dual-channel EPM series power meter
N1911A <sup>1</sup>	Single-channel P-series power meter
N1912A <sup>1</sup>	Dual-channel P-series power meter
E9304A-H18	power sensor, 9 kHz to 18 GHz, Type-N (m), 100 mW
E4412A	CW power sensor, 10 MHz to 18 GHz, Type-N (m), 200 mW
N1921A	power sensor 50 MHz to 18 GHz, Type-N (m)
U2000A/B/H	USB power sensor, 10 MHz to 18 GHz, Type-N (m)
U2001A/B/H	USB power sensor, 10 MHz to 6 GHz, Type-N (m)
U2004A	USB power sensor, 9 kHz to 6 GHz, Type-N (m)

1. Order the 82357B USB/GPIB interface to control a power meter by the E5072A

## Calibration kit

Model No	Description
Mechanical calibration kits	
85032F	50 $\Omega$ standard calibration kit, DC to 9 GHz. Includes; <ul style="list-style-type: none"> <li>- Type-N (m) fixed load</li> <li>- Type-N (f) fixed load</li> <li>- Type-N (m) Open</li> <li>- Type-N (f) Open</li> <li>- Type-N (m) Short</li> <li>- Type-N (f) Short</li> </ul>
85032F-100	Adds 50 $\Omega$ type-N (f) to type-N (f) adapter
85032F-200	Adds 50 $\Omega$ type-N (m) to type-N (m) adapter
85032F-300	Adds 50 $\Omega$ type-N (m) to type-N (f) adapter
85032F-500	Adds; <ul style="list-style-type: none"> <li>- 50 <math>\Omega</math> type-N (m) to 7 mm adapter (2 qty.)</li> <li>- 50 <math>\Omega</math> type-N (f) to 7 mm adapter (2 qty.)</li> </ul>
85033E	50 $\Omega$ standard calibration kit, DC to 9 GHz. Includes; <ul style="list-style-type: none"> <li>- 3.5 mm (m) Load/3.5 mm (m) Open/3.5 mm (m) Short</li> <li>- 3.5 mm (f) Load/3.5 mm (f) Open/3.5 mm (f) Short</li> <li>- Torque wrench</li> </ul>
85033E-100	50 $\Omega$ type-N to 3.5 mm adapter kit. Includes; <ul style="list-style-type: none"> <li>- 3.5 mm (m) to type-N (m) adapter</li> <li>- 3.5 mm (f) to type-N (f) adapter</li> <li>- 3.5 mm (f) to type-N (m) adapter</li> <li>- 3.5 mm (m) to type-N (f) adapter</li> </ul>
85033E-200	Adds 3.5mm (m) to 3.5 mm (m) adapter
85033E-300	Adds 3.5mm (f) to 3.5 mm (m) adapter
85033E-400	Adds; <ul style="list-style-type: none"> <li>- 3.5 mm (m) to Type-N (m) 50-Ohm adapter</li> <li>- 3.5 mm (f) to Type-N (f) 50-Ohm adapter</li> <li>- 3.5 mm (f) to Type-N (m) 50-Ohm adapter</li> <li>- 3.5 mm (m) to Type-N (f) 50-Ohm adapter</li> </ul>
85033E-500	Adds; <ul style="list-style-type: none"> <li>- 3.5 mm (m) to 7 mm adapter (2 qty.)</li> <li>- 3.5 mm (f) to 7 mm adapter (2 qty.)</li> </ul>
Electronic calibration kits	
85092C <sup>1</sup>	RF ECal module 2-port (50 $\Omega$ type-N), 300 kHz to 9 GHz. The sexes of the connectors depend on the option.
85092C-M0F	Type-N (f) to Type-N (m) RF ECal module
85092C-00M	Type-N (m) to Type-N (m) RF ECal module
85092C-00F	Type-N (f) to Type-N (f) RF ECal module
85092C-00A	Adds; <ul style="list-style-type: none"> <li>- Type-N (f) to Type-N (f) adapter</li> <li>- Type-N (m) to Type-N (m) adapter</li> </ul>
85093C <sup>1</sup>	RF ECal module 2-port (3.5 mm), 300 kHz to 9 GHz. The sexes of the connectors depend on the option.
85093C-M0F	3.5 mm (f) to 3.5 mm (m) RF ECal module
85093C-00M	3.5 mm (m) to 3.5 mm (m) RF ECal module
85093C-00F	3.5 mm (f) to 3.5 mm (f) RF ECal module
85093C-00A	Adds; <ul style="list-style-type: none"> <li>- 3.5 mm (f) to 3.5 mm (f) adapter</li> <li>- 3.5 mm (m) to 3.5 mm (m) adapter</li> </ul>

1. Make sure that the power levels used during calibration do not damage the calibration kit. For Electronic calibration modules, maximum input power and damage level are listed in the data sheet. (5963-3743E).

## E5072A Network Analyzer Configuration and block diagram

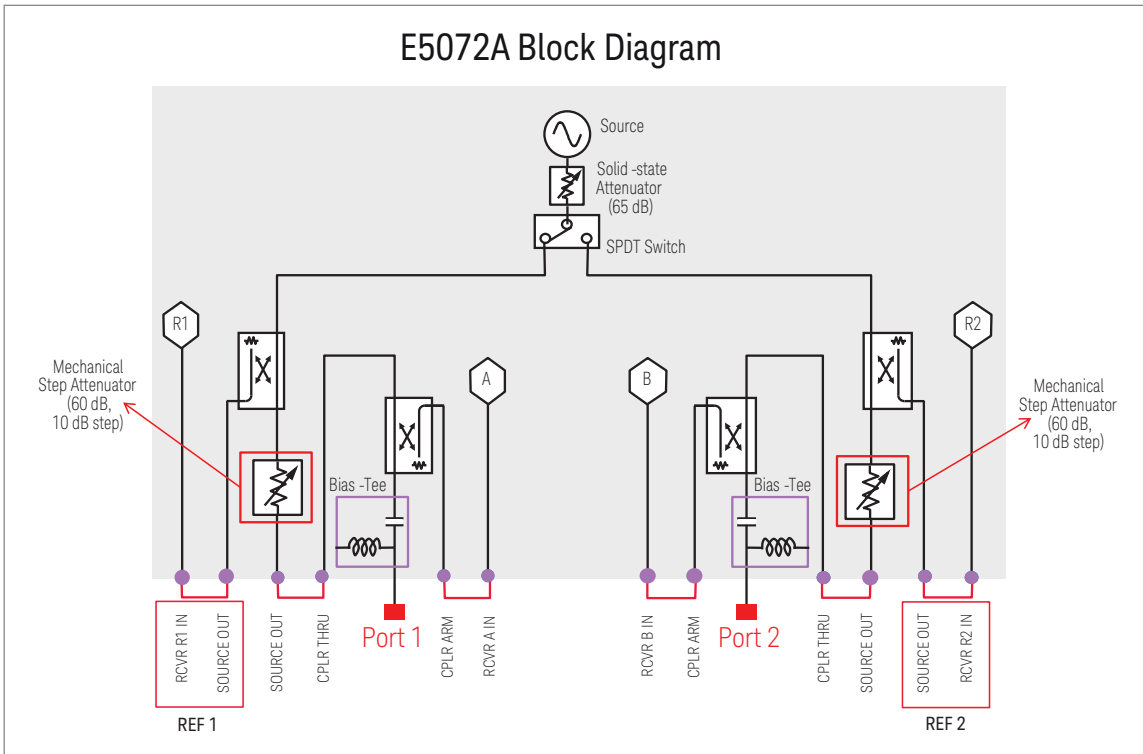


Figure1. Simplified test set block diagram

## E5072A Network Analyzer Upgrades <sup>1</sup>

The following upgrade kits are available for adding the options of the E5072A

Option no	Description
E5072AU-006 <sup>3</sup>	Add wireless power transfer analysis (customer installable)
E5072AU-008	Add frequency offset mode (customer installable)
E5072AU-010	Add time domain analysis (customer installable)
E5072AU-1E5	Add high stability time base (return to Keysight)
E5072AU-027	Upgrade to removable HDD <sup>2</sup> (return to Keysight)
E5072AU-028	Removable hard disk kit. (spare hard disk, customer installable)
E5072AU-285	Maximum frequency upgrade from 4.5 GHz to 8.5 GHz for E5072A-245 (return to Keysight)

1. The installation price is NOT included in the E5072AU-xxx kit price and it is quoted separately.
2. New hard disk is not included in this option and an original disk is reused. Order E5072AU-028 if spare disk is necessary.
3. The firmware must be Rev. B.02.20 or later.

## Literature Resource

You can find detail information about the key features, application examples, and technical specification of the E5072A in the following document.

Literature number	Description
5990-8001EN	E5072A Network Analyzer Configuration Guide
5990-8002EN	E5072A Network Analyzer Data Sheet
5990-8003EN	E5072A Network Analyzer Quick Fact Sheet
5990-8004EN	E5072A Network Analyzer Technical Overview
5990-8005EN	High-power Measurement Using the E5072A Network Analyzer Application Note
5989-7603EN	Keysight Network Analyzer Selection Guide
5989-0206EN	7 Reasons to Migrate from Your 8753 to an ENA Network Analyzer

## Web Resources

Have access to the following website to acquire the latest news, product and support information, application literature and more. <http://www.keysight.com/find/e5072A>



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