Installation Guide

P-Series Power Meters

N1911A and N1912A

Agilent Technologies

General

Legal Information

Certification

Agilent Technologies certifies that this product met its published specifications at the time of shipment from the factory. Agilent 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 Institute's calibration facility, and to the calibration facilities of other International Standards Organization members.

Safety Symbols

The following symbols on the instrument and in the documentation indicate precautions which must be taken to maintain safe operation of the instrument.

⚠	The Instruction Documentation Symbol. The product is marked with this symbol when it is necessary for the user to refer to the instructions in the supplied documentation.
∿	Alternating current (AC)
		This symbol indicates the operating switch for 'On' mode.
⏻	This symbol indicates the operating switch for 'Stand-by' mode. Note, the instrument is NOT isolated from the mains when the switch is pressed. To isolate the instrument, the mains coupler (mains input cord) should be removed from the power supply.

Safety Notices

This guide uses warnings and cautions to denote hazards

WARNING   **A warning calls attention to a procedure, practice or the like, which, if not correctly performed or adhered to, could result in injury or loss of life. Do not proceed beyond a warning until the indicated conditions are fully understood and met.**

CAUTION   A caution calls attention to a procedure, practice or the like which, if not correctly performed or adhered to, could result in damage to or the destruction of part or all of the equipment. Do not proceed beyond a caution until the indicated conditions are fully understood and met.

General Safety Information

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 violates safety standards of design, manufacture, and intended use of the instrument. Agilent Technologies assumes no liability for the customer's failure to comply with these requirements.

This is a Safety Class I instrument (provided with a protective earthing ground, incorporated in the power cord). The mains plug shall only be inserted in a socket outlet provided with a protective earth contact. Any interruption of the protective conductor inside or outside of the instrument is likely to make the instrument dangerous. Intentional interruption is prohibited.

DO NOT operate the product in an explosive atmosphere or in the presence of flammable gasses or fumes.

DO NOT use repaired fuses or short-circuited fuseholders: For continued protection against fire, replace the line fuse(s) only with fuse(s) of the same voltage and current rating and type.

DO NOT perform procedures involving cover or shield removal unless you are qualified to do so: Operating personnel must not remove equipment covers or shields. Procedures involving the removal of covers and shields are for use by service-trained personnel only.

DO NOT service or adjust alone: Under certain conditions, dangerous voltages may exist even with the equipment switched off. To avoid dangerous electrical shock, service personnel must not attempt internal service or adjustment unless another person, capable of rendering first aid and resuscitation, is present.

DO NOT operate damaged equipment: Whenever it is possible that the safety protection features built into this product have been impaired, either through physical damage, excessive moisture, or any other reason, REMOVE POWER and do not use the product until safe operation can be verified by service-trained personnel. If necessary, return the product to a Agilent Sales and Service Office for service and repair to ensure the safety features are maintained.

DO NOT substitute parts or modify equipment: Because of the danger of introducing additional hazards, do not install substitute parts or perform any unauthorized modification to the product. Return the product to an Agilent Sales and Service Office for service and repair to ensure the safety features are maintained.

Contents

Contents

1   Getting Started

Welcome

Welcome to the Agilent Technologies P-Series Power Meter's Installation Guide. This guide shows you how to:

- physically check the power meter

- adjust the carrying handle

- switch it on and confirm the meter passes the power-on self test

- connect it to a P-series power sensor

- connect it to an 8480 or E-series power sensor

- perform a zero and calibration routine on an 8480 or E-series power sensor

- make connections to the rear panel

- use the *Agilent IO Libraries Suite* to configure the remote programming interfaces

- attach the rack mounting kits (supplied with option 908 or option 909)

NOTE   Both single and dual channel power meters with a variety of rear panel configurations have been used for the illustrations in this guide. Your power meter may differ in detail to those shown.

Initial Inspection

Please inspect the shipping container for damage. If the shipping container or packaging material is damaged, it should be kept until the contents have been checked mechanically and electrically. If there is mechanical damage, notify the nearest Agilent Technologies office. Keep the damaged shipping materials (if any) for inspection by the carrier and an Agilent representative. If required, you can find a list of Agilent Sales and Service Offices on page 48.

Before continuing, please ensure you have read and understood the preceding safety information.

Documentation Information

This guide is only part of the information supplied. The documentation consists of:

- The Installation Guide (this book) - Shows you how to check your power meter, switch it on and connect it to an Agilent power sensor. *This information is presented in English, French, and Japanese.*

- The User's Guide - Shows you how to operate your power meter from the front panel interface to make measurements using the Agilent P-series, E-series E9320, E-series E9300, E-series E4400, and 8480 series power sensors. You can find the User's Guide as an Adobe Acrobat PDF (Portable Document Format) file on the supplied CD-ROM in English, French, and Japanese.

- The Programmer's Guide - Shows you how to operate your power meter using the remote interfaces. You can find the Programmer's Guide as an Adobe Acrobat PDF file on the supplied CD-ROM. This guide is supplied in English language only.

Printed Guides are available by ordering the following options:

- English language User's Guide - ABA.

- French language User's Guide - ABF.

- Japanese language User's Guide - ABJ.

NOTE   A printed Programmer's Guide is also supplied with the above options but in English Language only.

There is also a *Connectivity Guide* supplied as an Adobe Acrobat PDF file on the *Agilent IO Libraries Suite* CD-ROM. This is to help you configure your P-series power meter using the GPIB, LAN, or USB remote connections

What You'll Find in this Guide

This guide is divided into the following sections:

- Adjusting the Carrying Handle on page 7
- Turning the Power Meter On on page 8
- Front Panel Keys and Connections on page 11
- Connecting a Power Sensor on page 16
- Rear Panel Connections on page 20
- Remote Interface Configurations on page 22
- Rack Mounting the Power Meter on page 33
- General Specifications on page 40
- Compliance and Markings on page 43
- Regulatory Information on page 45
- Responsibilities of the Customer on page 47
- Agilent Sales and Service Offices on page 48

For more detailed operating information, refer to the P-Series power meter User's Guide and Programmer's Guide.

Conventions Used in this Guide

The following conventions are used to show the difference between a
front panel key and a softkey.

Channel	This symbol and text represents a labeled key on the power meter front panel.
Softkey	This symbol and text represents a labeled softkey and is used to indicate you should press the unmarked key beside the displayed text.
Message	This text represents a displayed message.
Parameter	This is used to represent a parameter, value, or title.
"Channel"	This User's Guide describes the operation for both the single channel and the dual channel power meter. To identify channels on a dual channel meter a **Channel** softkey on an N1911A meter becomes **Channel A** and **Channel B** an N1912A. When you are asked to press "the channel" **Softkey** in a procedure, make sure you select the relevant channel.

Power Meter and Sensor Capability

Your P-Series power meter is compatible with Agilent P-series,
E-series E9320, E-series E9300, E-series E4400, and the 8480 series
power sensors. However, not all sensor and meter combinations have the
same features or capabilities. The main differences are:

Features	P-Series N1920	E-Series E9320	E-Series E9300	E-Series E4400	8480 Series
Average Power of CW Signal	•	•	•	•	•
Average Power of modulated signal	•	•	•		•
Peak Power	•	•			
Cal Factors stored on EEPROM	•	•	•	•	
≥200 Readings/sec.	•	•	•	•	
Rising Edge Trigger	•	•			
Falling Edge Trigger	•	•			

Specifications

The specifications for the power meter are listed in the P-series User's
Guide.

Adjusting the Carrying Handle

Adjust the carrying handle to carry the meter or view the display.

The carrying handle can be locked into three different positions.

Pull the handle outwards, rotate it to the required position and release it into one of the three locks.

If you want to remove the handle, refer to Rack Mounting the Power Meter on page 33.

Turning the Power Meter On

You can turn the power meter on without connecting a power sensor or power-sensor cable.

CAUTION   The instrument has an autoranging power supply. Ensure the supply voltage is within the range 100 V_{ac} to 240 V_{ac} and 50 Hz to 60 Hz and 440 Hz.

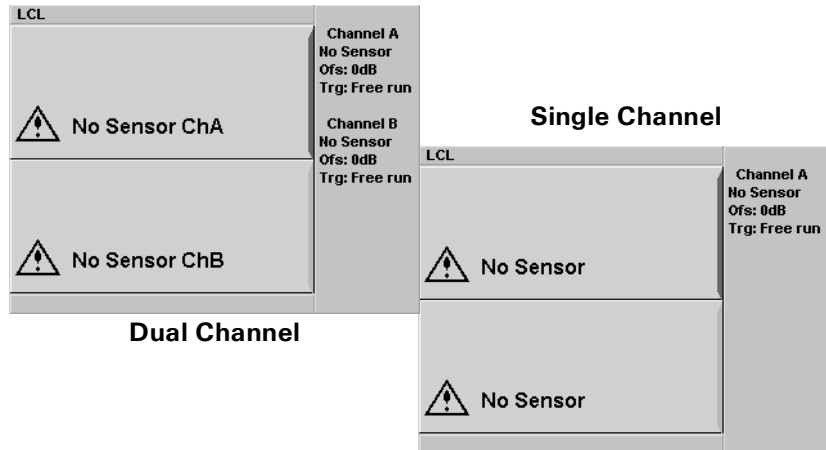1. Connect the Power Cord.

2. Check that the background LED is red.

3. Turn the meter on and confirm the background LED is green.

4. The meter automatically steps through a self test routine. After this routine you should see one of the following displays...

Single Channel

Dual Channel

5. The power meter is now ready for use.

NOTE If the meter has been stored in extremely cold conditions, beyond its normal operating range, the display may require a few minutes to warm up and operate normally.

What Can Go Wrong?

See this	Do this
Red LED not lit	Check that power is supplied to the meter.
	Check the power meter fuse. (see Step 5)
Fails self test(s)	If there are any self-test failures the meter is defective. Contact your nearest Agilent Service Center (Refer to Agilent Sales and Service Offices on page 48).

5. Line input fuse and spare.
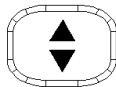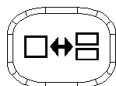

In-line Fuse

Spare Fuse
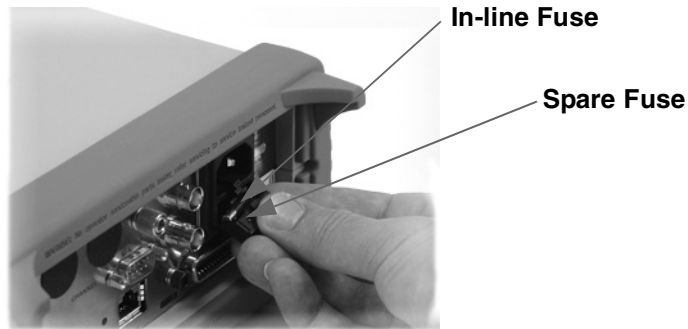
Front Panel Keys and Connections

This section briefly describes the functions of the front panel keys and connectors. The User's Guide shows you how to use them in more detail.

These keys are located to the left of the display.

Key	Function
Preset	Press this key to preset the power-meter. An option list of pre-installed measurement configurations is presented. Select an option and press the confirm key.
Local	Press this key to control the power meter from the front panel when it is operating via the remote interfaces (when Local Lock Out is not enabled).
▲▼	Press this key to select the upper or lower measurement window. The selected window is highlighted by a blue line on the right side of the window. Any measurement setup you create is performed in the selected window.
□↔🗄	Press this key to choose windowed, expanded, or full-screen display of a numeric measurement. It also provides quick access to the Gate Control screen and menu when a trace window is selected.
⏻	Press this key to switch the meter between on and standby. When power is supplied, the background LED is red. Pressing the key, switches the power meter on and the background LED is green.
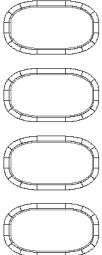
These keys are located along the lower edge of the display.

Key	Function
System	Press this key to access general configuration-menus, such as GPIB address. You can also access some measurement configuration-menus. The measurement screen remains visible.
Channel	Press this key to access the channel configuration menus. Channel parameters such as averaging and offsets are configured from this menu.
Trig/Acq	Press this key to access the triggering menu. Unless a P-series or an E-series E9320A sensor is connected, all the menu keys are disabled (greyed out).
Meas	Press this key to setup relative measurements or set display offsets. Use this key to configure the selected measurement.
Disp	Press this key to access the measurement display menu. You can choose the displayed measurement resolution, units and display format. Use this key together with Meas to configure measurement displays.
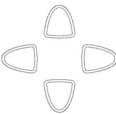
These keys are all associated with the menu labels and data entry. They are located to the right of the display.
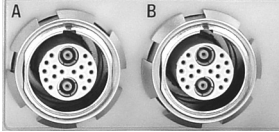
Key	Function
Prev/ Esc	Press this key to return to the previous screen. This key also cancels pop-up entry.
(softkeys)	These unmarked keys are called 'softkeys' and are referred to by the text on the display next to them. For example, during a Preset, you are given an option to confirm the command. Press **Confirm** to continue, that is, press the softkey beside the displayed word 'confirm'.
(softkey)	The lowest of the unmarked softkeys is used when there is a two page menu to be displayed. For example, a **1 of 2** is displayed beside the key indicating the first page of a two page menu. Press the key to access the next page or second page. (A **2 of 2** is displayed).

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These keys and connectors are associated with the measurement channels and are located on the right-hand side of the front panel.

Key	Function
The arrow keys	The arrow keys are used to highlight measurement setups and change parameters such as instrument state names. The User's Guide shows how these keys are used in more detail
Select	Press this key to check the highlighted parameter On/Off or select the highlighted field. Refer to the User's Guide for more information.
Cal	Press this key to access the zero and calibration menus. Refer to the User's Guide for more information.
Run / Stop	Press this key to when in Single Trigger mode to start and stop the acquisition of the measurement. Refer to the User's Guide for more information.
7 8 9 4 5 6 1 2 3 0 · +/−	Press these keys to enter numeric values in the pop-up fields, for example, the offset values. To complete the entry use the softkey. Refer to the User's Guide for more information.

Connector	Function
	The power reference is a 1 mW (0 dBm) 50 MHz signal available from a 50 Ω type-N connector. It is used for calibrating an 8480 or E-Series power sensor and meter system. If the meter is configured with Option 003, the connector is fitted to the rear panel. The Green LED beside the connector is lit when the calibrator is turned on.
	The sensor input connectors (N1912A shown, the N1911A has one input). If the meter is configured with Option 003, the connectors are fitted to the rear panel.

Connecting a Power Sensor

P-series Sensor

P-series sensors are supplied with a permanently connected sensor cable.

1. Connect the P-series sensor cable to the CHANNEL A (or CHANNEL B) input connector.

Ensure you line up the red dots on the sensor cable and power meter's connector

3. Confirm a reading sensor pop-up message appears briefly.

Reading Sensor

Please Wait
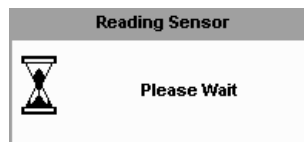
4. Confirm the display has changed to a measurement reading.

Dual Channel

E-Series and 8480 Sensor Models

Using the N1917A/B/C cable, any Agilent 8480 or E-series power sensor can be connected to the N1911A or N1912A power meters.

The following shows the procedure for single channel meters configured with front panel mounted POWER REF and CHANNEL connectors. The procedure is similar for meters configured with rear panel connectors. Also, for dual channel meters (N1912A), you should repeat the procedure for the channel B sensor.

1. Connect the sensor to an Agilent N1917A cable.

2. Connect the other end of the N1917A cable to the CHANNEL A (or CHANNEL B) input connector.

3. Confirm a reading sensor pop-up message appears briefly.
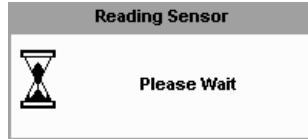
This message does not appear when connecting an 8480 Series power sensor.

4. Confirm the display has changed to a measurement reading.

Diagram shows display with an E-series E9320 power sensor connected.

Single Channel

5. Connect the sensor to the POWER REF connector.

6. When the sensor is connected to the POWER REF, you can zero

and calibrate the measurement path quickly by pressing $\boxed{\text{Cal}}$,

$\boxed{\text{Zero + Cal}}$. On dual channel meters, press $\boxed{\text{Zero + Cal A}}$ or

$\boxed{\text{Zero + Cal B}}$.
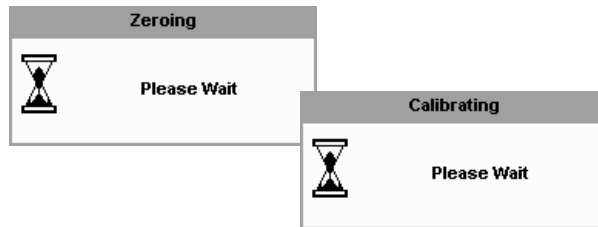
The **Zeroing** pop-up is displayed during the zeroing process, the
Calibrating pop-up during calibration. The meter-sensor
measurement path is calibrated when the **Calibrating** pop-up
disappears.

Rear Panel Connections

The following connections are available on the rear panel. To setup the remote interfaces, refer to Remote Interface Configurations on page 22.

1. GPIB

2. LAN

3. USB

3. Trigger Input and Output connections are made via BNC connectors

4. Recorder output (two outputs are fitted to dual channel meters) connections are made via BNC connectors.

Remote Interface Configurations

The power meter can be remotely controlled by LAN, USB, and GPIB (IEEE488) programming interfaces. This section shows you how to set the interface configurations.

Only one interface should be used at any one time.

NOTE   To connect the power meter to your PC, configure and verify your connection, you can use the *Agilent IO Libraries Suite*, the E2094M Agilent IO Libraries for Windows, or an equivalent.

- Agilent IO Libraries Suite for Windows 98/2000/ME/XP. For information and to install, use the A*utomation-Ready CD with Agilent IO Libraries Suite* which is shipped with the power meter.

- E2094M Agilent IO Libraries for Windows 98/NT/2000/ME/XP. You can find information and install this application via the Web at www.agilent.com/find/iolib.

- You can also access other information about Agilent IO Libraries at www.agilent.com/find/iolib.

NOTE   For more information on configurating the remote interface connectivity, refer to the *Agilent Technologies USB/LAN/GPIB Interfaces Connectivity Guide*. If you have installed the *IO Libraries Suite*, you can access the *Connectivity Guide* via the Agilent IO Libraries Control icon. Alternatively, you can access the *Connectivity Guide* via the Web at www.agilent.com/find/connectivity.

USB

The USB interface requires no front panel configuration.

USB operation and configuration is supported by the version of VISA and SICL IO libraries on your PC.

NOTE   Before connecting the USB cable, make sure that I/O software is installed on your computer.

See "Remote Interface Configurations" on page 22 for information about *Agilent IO Libraries* software. If you have installed other I/O software, refer to documentation that accompanies the software.

1. After I/O software is installed on your computer, connect your P-series power meter to your PC using the supplied Type A - Mini 5 pin USB cable.

2. The PC confirms the Hardware Connection as shown in Figure 1-1.

Figure 1-1   Example of Initial Connection Windows
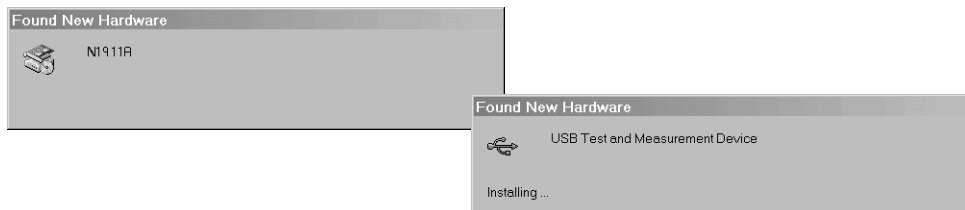
3. The Found New Hardware Wizard automatically starts and guides you through configuring the power meter as a USB device. Click **Next** to install the software automatically, accept all defaults to complete the installation.

NOTE   If you installed Agilent IO Libraries software, you also installed low-level drivers. Therefore, you do not need to insert the CD when Found New Hardware Wizards requests you to do so.

4. When the Wizard has completed configuring the power meter, a window appears on your PC, Figure 1-2 shows an example. If required, enter an **Alias** name to easily identify the power meter.

Figure 1-2   **USB Configuration Complete**
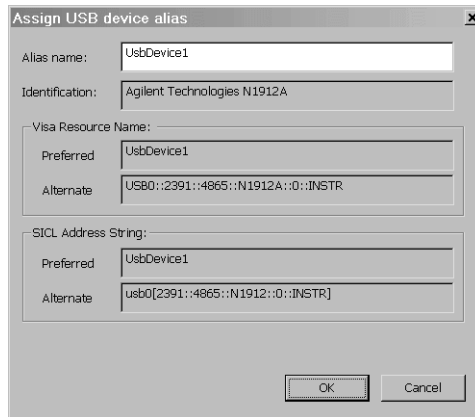
5. You can use *Connection Expert* in the *IO Libraries Suite* to check instrument identification.

6. Now you can use various programming environments to control the power meter. For an overview about programming the power meter via USB, refer to the *Connectivity Guide* and the *Programmer's Guide*.

LAN

The power meter has three LAN operating modes:

- Dynamic IP (Dynamic Host Configuration Protocol or DHCP)

- Auto IP (Local PC Control or isolated (non-site) LAN)

- Static IP (Manual mode)

NOTE   Your power meter uses standard VXI-11 protocol for emulating GPIB over a TCP/IP link. The emulated GPIB address is fixed at 13.

Configuring the Power Meter

The IP Address, Subnet Mask, and Default Gateway, can be changed manually or remotely.

The IP address, Subnet Mask, and Default Gateway values are stored in non-volatile memory and are not part of the save-recall function.

Selecting the LAN Network Type

You can connect and configure your power meter for site LAN or isolated (non-site) LAN.

A site LAN network is defined as a local area network (LAN) in which computers and LAN-enabled instruments are connected to a site LAN (workgroup LAN, Intranet, or enterprise LAN) via optional routers, hubs, and/or switches.

An isolated (non-site) LAN network is defined as a local area network (LAN) in which computers and LAN-enabled instruments are not connected to a site LAN.

Select the LAN network type you will use to connect the power meter to your computer. Then follow the procedure that corresponds to your selected LAN network type.

Dynamic Mode

In dynamic mode the IP Address, Subnet Mask, and Default Gateway values are obtained from a DHCP server. When you use DHCP operation you cannot configure the IP Address, Subnet Mask, and Default Gateway values from the front panel.

Using this Dynamic Mode does not require a detailed knowledge of your network configuration.

NOTE   If the DHCP server cannot be found on your network, the power meter returns to the AutoIP mode, then static mode.

1. Using a standard LAN patch cable, connect both the computer and the power meter to LAN outlets.

2. Turn the power on the power meter.

3. Press $\boxed{\text{System}}$, **Remote Interfaces** to display the Remote Interface display. Ensure that DHCP to ON (ON is the factory default state).

   To enable DHCP operation using the arrow and Select keys to highlight and check DHCP is checked.

Figure 1-3   **Typical LAN Remote Interface**

NOTE   If your LAN does not support DHCP, refer to the *Connectivity Guide*.

4. Press **Network DHCP** if you need to set any optional settings.

5. Press **Restart Network**.

   A pop-up appears for 5 seconds (see Figure 1-4). Monitor the Status at the bottom of the display to see when the server has assigned an address.

Figure 1-4   **LAN Network Restart Pop-up**

6. Press $\boxed{\text{Prev/ Esc}}$, to return to a measurement screen.

7. If you intend to program over LAN or use such programs, make sure you have installed I/O software on your computer.

8. Use the *Connection Expert* utility of the *IO Libraries Suite* to add the power meter and verify a connection. When identifying the instrument, it is easiest to use the IP address that you noted in step 6 above.

NOTE   If you have installed other I/O software, refer to documentation that accompanies the software.

9. You can use various programming environments to control the power meter. For an overview about programming instruments via LAN, refer to the *Connectivity Guide*.

Auto IP Mode

Use this procedure if you require local PC Control or you are working in an isolated (non-site) LAN.

1. Connect the computer to the power meter.

2. Switch the power on to the power meter.

3. Press $\boxed{\text{System}}$, **Remote Interfaces** to display the Remote Interface display (see Figure 1-3). Ensure that AutoIP is checked.

4. Press **Network AutoIP** if you need to set any optional settings.

5. Press **Restart Network**.

   A pop-up appears for 5 seconds (see Figure 1-4). Monitor the Status at the bottom of the display to see when the server has assigned an address.

6. Press $\boxed{\text{Prev/ Esc}}$, to return to a measurement screen.

7. If you intend to program over LAN or use such programs, make sure you have installed I/O software on your PC.

8. Use the Connection Expert utility of the IO Libraries Suite to add the power meter and verify a connection.

NOTE   If you have installed other I/O software, refer to documentation that accompanies the software.

9. You can use various programming environments to control the power meter. For an overview about programming instruments via LAN, refer to the Connectivity Guide.

Static Mode (Configuring the LAN Manually)

In static mode you must set up the IP Address, Subnet Mask, and Default Gateway that is compatible with your network infrastructure. If it is not correctly setup, the power meter is not be visible on your network.

NOTE   If you configure an invalid IP Address or an IP address that is used by another device or host, an error message is generated. This error can be read by pressing $\boxed{\text{System}}$, **Error List** or by using the SYSTem:ERRor? command.

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1. Switch the power on to the power meter.

2. Press $\boxed{\text{System}}$, **Remote Interfaces** to display the Remote Interface display (see Figure 1-3).

3. Press **Network Manual** to set the IP address, Subnet Mask. The Default Gateway value is an optional setting.

   To individually specify the settings use the arrow keys, Select key, and use the numeric keys followed by **Enter** keys to enter the required IP address, Subnet Mask, and Default Gateway.

   The values can range between 0.0.0.0 and 255.255.255.255.

Figure 1-5   Typical Manual Entry LAN Network Interface
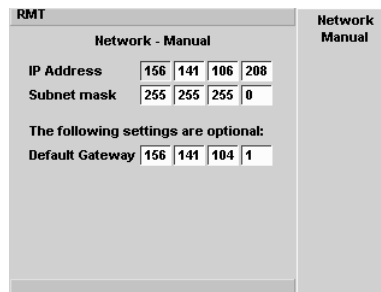
4. Press $\boxed{\begin{array}{c}\text{Prev/}\\\text{Esc}\end{array}}$, to return to the Remote Interface display.

Chapter 1   **29**

5. Press **Restart Network**.

   A pop-up appears for 5 seconds (see Figure 1-4). Monitor the Status at the bottom of the Remote Interface display to see when the server has assigned an address.

6. Press $\boxed{\substack{\text{Prev/} \\ \text{Esc}}}$, to return to a measurement screen.

7. If you intend to program over LAN or use such programs, make sure you have installed I/O software on your PC.

8. Use the *Connection Expert* utility of the *IO Libraries Suite* to add the power meter and verify a connection.

NOTE   If you have installed other I/O software, refer to documentation that accompanies the software.

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9. You can use various programming environments to control the power meter. For an overview about programming instruments via LAN, refer to the *Connectivity Guide*.

Configuring the LAN Remotely

To automatically configure the LAN settings enable DHCP operation using the SYSTem:COMMunicate:LAN:DHCP[:STATe] command.

To individually specify the settings use the
SYSTem:COMMuniucate:LAN:ADDRess,
SYSTem:COMMunicate:LAN:SMASk,
SYSTem:COMMunicate:LAN:DGATeway,
SYSTem:COMMunicate:LAN:AIP[:STATe], and
SYSTem:COMMunicate:LAN:RESTart commands.

GPIB

1. Install, or make sure you have installed, I/O software on your computer.

2. Follow your GPIB interface card vendor's instructions for installing GPIB hardware on your computer.

3. Connect a GPIB cable between your computer and the power meter.

4. Configure the installed GPIB card as the vendor instructs.

5. Use the *Connection Expert* utility of *IO Libraries Suite* to verify that the power meter is displayed under the GPIB interface definition.

NOTE   If you have installed other I/O software, refer to documentation that accompanies the software.

6. You can use various programming environments to control the power meter. For further information, refer to your GPIB card vendor's guide.

   Refer to the refer to the *Connectivity Guide* and the *Programmer's Guide* for an overview about programming the power meter.

Changing the GPIB Address

The GPIB address is an integer between 0 and 30. The power meter is shipped with a default address set to 13. The GPIB address is stored in non-volatile memory.

To change the GPIB address manually proceed as follows.

1. Press $\boxed{\text{System}}$, **Remote Interfaces**.

Figure 1-6   **Typical GPIB Remote Interface**
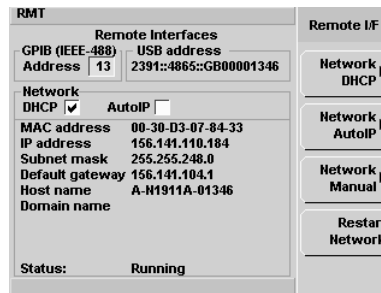
2. Use the arrow keys to highlight GPIB Address entry field.

3. Press (Select) and use the numeric keys to enter the GPIB address in the Pop-up.

4. Press the Enter key

To change the address remotely.

You can set/query the GPIB address remotely using the following command
`SYSTem:COMMunicate:GPIB:ADDRess`.

Rack Mounting the Power Meter

Rack Mounting Information

Disconnect Device Requirements

In rack mounting operation a disconnect device, for example, an IEC320 appliance coupler, must be used. Consideration must be given to the following when installing the power meter in a rack:

- An adequately rated switch (250V, 10A) or circuit breaker (250V, 5A) shall be included in the rack.

- It should in close proximity to the power meter and within easy reach of the operator.

- It shall be marked as a disconnect device.

Ventilation Requirements

When installing the Power Meter in a cabinet, the convection into and out of the power meter must not be restricted. If the total power dissipated in the cabinet is greater than 800 Watts, then forced convection must be used.

Rack Mounting One Meter
(Using the Option 908 rack mount kit)

1. Remove the carrying handle.

2. Remove the front and rear rubber bumpers.

3. Fit the Rack Mount Flanges.
(Parts available separately: 5063-9240).
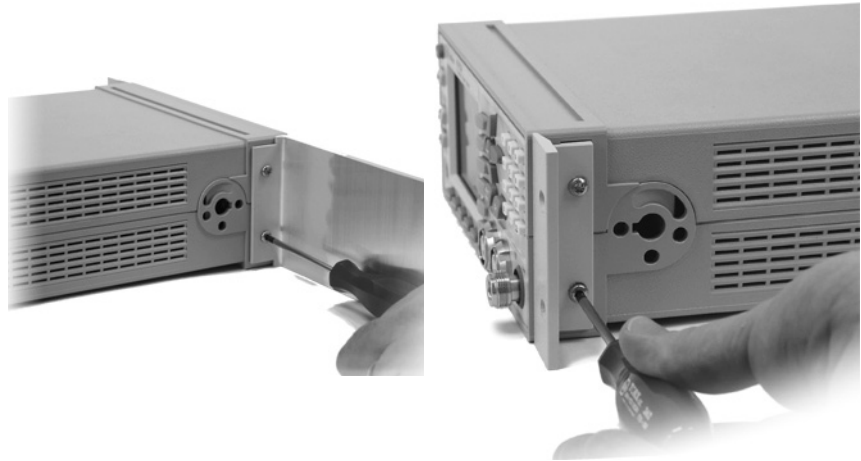
Ready for installation.

Rack Mounting Two Meters Together
(Using the Option 909 rack mount kit)

1. Remove the carrying handle.

2. Remove the front and rear rubber bumpers.

Hardware required to link meters together.

4. Fit one small rack mounting flange to opposite sides of each power meter.
(Parts available separately: 5061-9694 and 5063-9212).
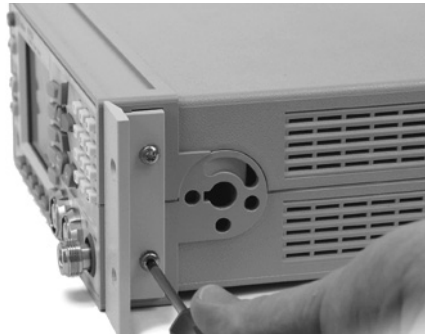
5. Fit two front linking plates to each power meter.

6. Engage the linking plates at the front of the power meters.

7. Attach the rear linking brackets.

Ready for installation

2   Regulatory Information

General Specifications

Environmental

Operating Temperature	0°C to +55°C
Storage Temperature:	−20°C to +70°C
Humidity:	Up to 95% Relative Humidity to +40°C
Altitude:	3000m (9,840 ft.)
EMC:	Meets EN55011: 1991 (Group 1, Class A), and EN50082-1:1992

Physical Specifications

Weight (Net):	N1911A: 3.8 kg (8.3 lb) approximately
	N1912A: 4.0 kg (8.8 lb) approximately
Weight (Shipping):	N1911A: 7.9 kg (17.4 lb) approximately
	N1912A: 8.0 kg (17.6 lb) approximately
Dimensions:	130H x 250W x 462D mm nominal (including handle and rubber bumpers)
	88H x 212W x 346D mm nominal (excluding handle and rubber bumpers)

Power Requirements

⚠	Line Power:	**Input Voltage Range:** 100 to 240 Vac, automatic selection
		Input Frequency Range: 50 to 60 Hz and 440 Hz
		Power Requirement: 70 VA

Cooling Requirements

To provide adequate cooling, and air gap of approximately 75mm (3ins) should be maintained around the vented sections of the instrument.

Cleaning

Use a soft, clean, damp cloth to clean the front-panel and side covers.

Use

This instrument is designed for indoor use only.

WARNING   **Appliance coupler (mains input power cord) is the power disconnect device. Do not position the instrument such that access to the coupler is impaired.**

WARNING   **For continued protection against fire hazard, replace the line fuse only with the same type and line rating (250V, F3.15A, 20mm fast blow fuse with high breaking capacity, Agilent Part Number 2110-0957).**
The use of other fuses or materials is prohibited.

WARNING   **No operator serviceable parts inside. Refer servicing to qualified personnel. To prevent electrical shock do not remove covers.**

WARNING   **If this instrument is not used as specified, the protection provided by the equipment could be impaired. This instrument must be used in a normal condition only (in which all means for protection are intact).**

CAUTION   This instrument is designed for use in Installation Category II and Pollution Degree 2 per IEC61010 and 60664 respectively.

Compliance and Markings

Electromagnetic Compatibility (EMC)

This product conforms with the protection requirements of European Council Directive 89/336/EEC for Electromagnetic Compatibility (EMC).

The conformity assessment requirements have been met using the technical Construction file route to compliance, using EMC test specifications EN 55011:1991 (Group 1, Class A) and EN 50082-1:1992.

In order to preserve the EMC performance of the product, any cable which becomes worn or damaged must be replaced with the same type and specification.

Refer to the "Declaration of Conformity" on page 46.

Safety

This instrument has been designed and tested in accordance with publication EN61010-1(2001) / IEC 1010-1(2001) / CSA C22.2 No. 61010-1-04 Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use, and has been supplied in a safe condition. The instruction documentation contains information and warnings which must be followed by the user to ensure safe operation and to maintain the instrument in a safe condition.

Markings

The following markings can be found on the rear panel.

$C\epsilon$	The CE mark shows that the product complies with all the relevant European legal Directives.
ICES/NMB-001	This ISM device complies with Canadian ICES-001. Cet appareil ISM est conforme à la norme NMB-001 du Canada.
(CSA®)	The CSA mark is a registered trademark of the Canadian Standards Association and indicates compliance with the standards set out by them.
ISM GROUP 1 CLASS A	This is the symbol of an Industrial Scientific and Medical Group 1 Class A product.
✔	The C-Tick mark is a registered trademark of the Australian Communications Authority. This signifies compliance with the Australian EMC Framework Regulations under the terms of the Radio communications Act of 1992.
⏚	External Protective Earth Terminal. While this is a Class I product, provided with a protective earthing conductor in a power cord, an external protective earthing terminal has also been provided. This terminal is for use where the earthing cannot be assured. At least an 18AWG earthing conductor should be used in such an instance, to ground the instrument to an assured earth terminal.

Regulatory Information

Sound Emission

Herstellerbescheinigung

Diese Information steht im Zusammenhang mit den Anforderungen der Maschinenlarminformationsverordnung vom 18 Januar 1991.

- Sound Pressure LpA < 70 dB.

- Am Arbeitsplatz.

- Normaler Betrieb.

Nach DIN 45635 T. 19 (Typprufung).

Manufacturers Declaration

This statement is provided to comply with the requirements of the German Sound DIN 45635 T. 19 (Typprufung).

- Sound Pressure LpA < 70 dB.

- At operator position.

- Normal operation.

- According to ISO 7779 (Type Test).

Declaration of Conformity

⁝ Agilent Technologies	**DECLARATION OF CONFORMITY** According to ISO/IEC Guide 22 and CEN/CENELEC EN 45014	C E
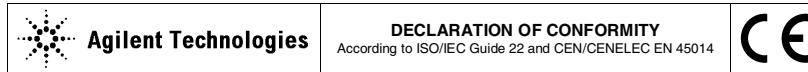
Manufacturer's Name: Agilent Technologies UK Limited
Manufacturer's Address: WBU Order Fulfillment
Supplier's Address: Station Road
South Queensferry
West Lothian, EH30 9TG
Scotland, United Kingdom

Declares under sole responsibility that the product as originally delivered

Product Name: P-Series Power Meter
Model Numbers: N1911A and N1912A
Product Options: This declaration covers all options of the above product as
detailed in TCF A-5951-9852-02.

complies with the essential requirements of the following applicable European Directives, and carries the CE marking accordingly:

- The Low Voltage Directive 73/23/EEC, amended by 93/68/EEC
- The EMC Directive 89/336/EEC, amended by 93/68/EEC

As detailed in: Electromagnetic Compatibility (EMC)
Technical Construction File (TCF) No. TCF A-5951-9852-02.

Assessed by: DTI Appointed Competent Body
EMC Test Centre,
GEC-Marconi Avionics Ltd.,
Maxwell Building,
Donibristle Industrial Park,
Hillend,
Dunfermline
KY11 9LB
Scotland, United Kingdom

Technical Report Number: 6893/2201/CBR, dated 23 September 1997

EMC Test Specifications: EN 55011:1991 (Group 1, Class A) and EN 50082-1:1992.

and conforms with the following product standards:

Safety IEC 61010-1:2001 / EN 61010-1:2001
Canada: CAN/CAN/CSA-C22.2 NO. 61010-1-04
EMC Canada: ICES-001:1998
Australia/New Zealand: AS/NZS 2064.1

Supplementary Information:

This DoC applies to above-listed products placed on the EU market after:

14 December 2004
Date

Robert Tait

Quality & Regulations Manager

Responsibilities of the Customer

The customer shall provide:

- Access to the products during the specified periods of coverage to perform maintenance

- Adequate working space around the products for servicing by Agilent personnel.

- Access to and use of all information and facilities determined necessary by Agilent to service and/or maintain the products. (Insofar as these items may contain proprietary or classified information, the customer shall assume full responsibility for safeguarding and protection from wrongful use.)

- Routine operator maintenance and cleaning as specified in the Agilent Operating and Service Manuals.

- Consumables such as replacement fuses, etc.

Agilent Sales and Service Offices

In any correspondence or telephone conversations, refer to the power meter by its model number and full serial number. With this information, the Agilent representative can quickly determine whether your unit is still within its warranty period.

UNITED STATES	Agilent Technologies (tel) 1 800 829 4444
CANADA	Agilent Technologies Canada Inc. Test & Measurement (tel) 1 877 894 4414
EUROPE	Agilent Technologies Test & Measurement European Marketing Organization (tel) (31 20) 547 2000
JAPAN	Agilent Technologies Japan Ltd. (tel) (81) 426 56 7832 (fax) (81) 426 56 7840
LATIN AMERICA	Agilent Technologies Latin America Region Headquarters, USA (tel) (305) 267 4245 (fax) (305) 267 4286
AUSTRALIA and NEW ZEALAND	Agilent Technologies Australia Pty Ltd. (tel) 1-800 629 4852 (Australia) (fax) (61 3) 9272 0749 (Australia) (tel) 0-800 738 378 (New Zealand) (fax) (64 4) 802 6881 (New Zealand)
ASIA PACIFIC	Agilent Technologies, Hong Kong (tel) (852) 3197 7777 (fax) (852) 2506 9284

You can visit our website: - http://www.agilent.com/find/assist.