

Keysight Technologies
E8257DV01-V15, V1B, V2B
Signal Generator
Frequency Extension Module

Notices

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Safety Notices

CAUTION

A CAUTION notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a CAUTION notice until the indicated conditions are fully understood and met.

WARNING

A WARNING notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

Keysight Technologies

E8257DV01-V15, V1B, and V2B

Signal Generator Frequency Extension Module

The Keysight E8257DV01-V15, V1B and V2B Signal Generator Frequency Extension (SGX) Modules are manufactured by Virginia Diodes, Inc. (VDI). The Amplifier/Multiplier Chain (AMC) modules may be used with the Keysight E8257D PSG Signal Generator.

These SGX modules provide high performance frequency extension of microwave sources into the THz range. These modules combine high test-port power with low phase noise to offer exceptional performance. Refer to the VDI User's Guide included on the USB drive.

For more information, see the Product Manual at https://www.vadiodes.com/images/Products/SGX/VDI-730_SGX_Product_Manual.pdf.

For specifications, see the VDI web page at https://www.vadiodes.com/images/Products/SGX/VDI_SGX_Specifications_20200331.pdf.

The cables and power supply will be included with the module in the transport case. Cutouts have been created for the accessories within the transport case, simply remove the foam insert.

Attenuator or other accessories (Optional) ¹.



Transport Case



Power Supply



Cables

VDI Module

USB Drive



AC Power Cable



Adapter

1. To order accessories, see [Accessories and Information on page 10](#). For the **Keysight Millimeter Wave Frequency Extenders, Technical Overview** document, visit <http://literature.cdn.keysight.com/litweb/pdf/5991-3162EN.pdf>

CAUTION

Do not exceed the maximum power level at the RF Input. Non-warranted damage to the circuitry inside the module can occur if the power level is at or above the damage level specified in the VDI User's Guide for "RF Input."

NOTE

Before using your SGX module, please read all documentation from VDI (included on the USB drive).

Typical Connection Diagram

**NOTE**

The product serial number is the OEM serial number **SGXxxxx** (xxxx = numbers in the OEM serial number) assigned by Virginia Diodes, Inc. Refer to the label on the product for the serial number.

Table 1 SGX Modules

Keysight Model	VDI Model	Frequency (GHz)
E8257DV01	WR1.0SGX	750 to 1100
E8257DV1B	WR1.5SGX	500 to 750
E8257DV02	WR2.2SGX	325 to 500
E8257DV2B	WR2.8SGX	260 to 400
E8257DV03	WR3.4SGX	220 to 330
E8257DV04	WR4.3SGX	170 to 260
E8257DV05	WR5.1SGX	140 to 220
E8257DV06	WR6.5SGX	110 to 170
E8257DV08	WR8.0SGX	90 to 140
E8257DV10	WR10SGX	75 to 110
E8257DV12	WR12SGX	60 to 90
E8257DV15	WR15SGX	50 to 75

Table 2 **SGX Options**

Option	Description
DC9	Standard SGX with 9 VDC supply
D48	Adds data on USB down to 48 GHz (E8257DV15 only)
D73	Adds data on USB down to 73 GHz (E8257DV10 only)
HP0	High Power VDI Model SGX (E8257DV12-HP0, 19 dBm typical, min 15 dBm)

To set your PSG to be used with the SGX module, set the frequency multiplier value in the PSG to match the N=x value printed on the label on the top of the SGX.

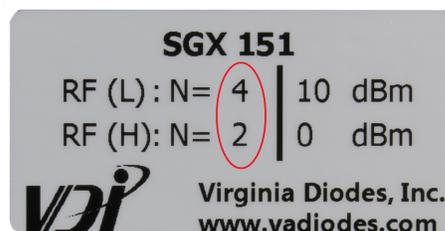
[Frequency] > More > Freq Multiplier > [N] > X (see label on SGX for N value)

By doing this, the PSG will display the frequency that is at the output of the SGX module.

NOTE

Always use the information printed on the SGX label of your module.

- When using the **RF (L) Input** (typical connection), use **RF (L): N= X**, with "X" being the multiplication factor value shown on your SGX label.
- When using the **RF (H) Input** (jumper removed), use **RF (H): N= X**, with "X" being the multiplication factor value shown on your SGX label.



On the SGX label, the multiplication factor values are circled. This is an example only; the actual values will vary.

Power Requirements

- **Voltage and/or range (V):** 100-240 Vac (AC input for AC/DC adapter), 9 Vdc (input for module)
- **Frequency and/or range (Hz):** 50-60 Hz (AC input for AC/DC adapter)
- **Power in Watts, VA or Current (A):** 1.2 A max (input for AC/DC adapter), 4 A (input for module)

NOTE

The instrument can operate with mains supply voltage fluctuations up to $\pm 10\%$ of the nominal voltage.

Install the instrument so that the detachable power cord is readily identifiable and is easily reached by the operator. The detachable power cord is the instrument disconnecting device. It disconnects the mains circuits from the mains supply before other parts of the instrument. Alternatively, an externally installed switch or circuit breaker (which is readily identifiable and is easily reached by the operator) may be used as a disconnecting device.

Environmental Conditions

- For indoor use only

CAUTION

This product is designed for use in INSTALLATION CATEGORY II and POLLUTION DEGREE 2.

NOTE

The input terminals for this product are classified as Measurement Category None.

Cleaning

NOTE

Cleaning connectors with alcohol shall only be done with the instrument's power cord removed and in a well-ventilated area. Allow all residue alcohol moisture to evaporate and the fumes to dissipate prior to energizing the instrument.

WARNING

To prevent electrical shock, disconnect the instrument from mains before cleaning. Use a dry cloth or one slightly dampened with water to clean external case parts. Do not attempt to clean internally.

Safety and Information

WARNING

Use the Keysight supplied power cord or one with the same or better electrical rating.

WARNING

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

WARNING

The Mains wiring and connectors shall be compatible with the connector used in the premise electrical system. Failure to ensure adequate earth grounding by not using the correct components may cause product damage and serious injury.

WARNING

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

WARNING

Safety of any system incorporating the equipment is the responsibility of the assembler of the system.

CAUTION

This instrument has auto-ranging line voltage input. Be sure the supply voltage is within the specified range and voltage fluctuations do not to exceed 10 percent of the nominal supply voltage.

NOTE

Before using your converter module, please read all documentation from VDI (included on the USB drive). It is important to follow the General Operating Procedures and Guidelines section.

NOTE

This product has been designed and tested in accordance with accepted industry standards and has been supplied in a safe condition. The documentation contains information and warnings that must be followed by the user to ensure safe operation and to maintain the product in a safe condition.

NOTE

Only Keysight approved accessories shall be used.

NOTE

The main power cord can be used as the system disconnecting device. It disconnects the mains circuits from the mains supply.

Instrument Markings

Listed below are definitions for the markings that may be found on the product.

	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 documentation.
	The AC symbol indicates the required nature of the line module input power.
	This symbol indicates separate collection for electrical and electronic equipment, mandated under EU law as of August 13, 2005. All electric and electronic equipment are required to be separated from normal waste for disposal (Reference WEEE Directive, 2002/96/EC).
	This symbol indicates that the power line switch is ON.
	This symbol indicates that the power line switch is in the OFF position.
IP 2 0	The instrument has been designed to meet the requirements of IP 2 0 for ingress and operational environment.
	The RCM mark is a registered trademark of the Australian Communications and Media Authority.
	Indicates the time period during which no hazardous or toxic substance elements are expected to leak or deteriorate during normal use. Forty years is the expected useful life of the product.
	The CE mark is a registered trademark of the European Community.
ccr.keysight@keysight.com	The Keysight email address s required by EU directives applicable to our product.
	This is a symbol of an Industrial Scientific and Medical Group 1 Class A product (CISPR 11, Clause 5).
ICES/NMB-001	This is a marking to indicate product compliance with the Canadian Interference-Causing Equipment Standard (ICES-001). Cet appareil ISM est conforme à la norme NMB du Canada.
	This symbol on all primary and secondary packaging indicates compliance to China standard GB 18455-2001.
	South Korean Certification (KC) mark; includes the marking's identifier code which follows this format: MSIP-REM-YYY-ZZZZZZZZZZZZZZ.

Safety

Complies with the essential requirements of the European Low Voltage Directive.

EMC

Complies with the essential requirements of the European EMC Directive as well as current editions of the following standards (dates editions are cited in the Declaration of Conformity):

- IEC/EN 61326-1
- CISPR Pub 11 Group 1, Class A
Caution: This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.
- AS/NZS CISPR 11
- CAN ICES/NMB-001 (A)
This ISM device complies with Canadian ICES-001.
Cet appareil ISM est conforme a la norme NMB-001 du Canada.

To find a current Declaration of Conformity for a specific Keysight product, go to:

<http://regulations.about.keysight.com/DoC/search.htm>

South Korean Class A EMC Declaration

If there is a "KC" mark on the product, then the following statement applies:

This equipment has been conformity assessed for use in business environments. In a residential environment, this equipment may cause radio interference.

※ This EMC statement applies to the equipment only for use in a business environment.

사용자 안내문
<p>이 기기는 업무용 환경에서 사용할 목적으로 적합성평가를 받은 기기로서 가정용 환경에서 사용하는 경우 전파간섭의 우려가 있습니다.</p>

※ 사용자 안내문은 “업무용 방송통신기자재”에만 적용한다.

Acoustic Statement (European Machinery Directive)

- Acoustic noise emission
LpA < 70 dB
Operator position
Normal operation mode per ISO 7779

For information concerning the operation and connections, reference the VDI User Guide (included on the USB Drive), or the Keysight X-Series Signal Analyzer's documentation by searching http://www.keysight.com/find/pxa_manuals. You may also reference the X-Series Signal Analyzer On-line Help System for operational information. Information is also available at <http://vadiodes.com>

Keysight Technologies does not guarantee the performance of the VDI modules, or system performance. However, if warranty or repair is needed Keysight will provide full support to our customer.

Inspect the shipping container. If the container or packing material is damaged, it should be kept until the contents of the shipment have been checked mechanically and electrically. If there is mechanical damage or if the instrument does not pass the performance tests, notify the nearest Keysight Technologies office. Keep the damaged shipping materials (if any) for inspection by the carrier and a Keysight Technologies representative.

Accessories and Information

A list of accessories can be found on the N9029AV99 Waveguide Accessories for mm-Wave Product Note (N9029-90035) at <https://www.keysight.com/us/en/assets/9921-01743/user-manuals/N9029AV99-Millimeter-Waveguide-Accessories-Product-Note.pdf>.

For information concerning the operation and connections, reference the VDI User Guide (included on the USB Drive), or the Keysight X-Series Signal Analyzer's documentation by searching http://www.keysight.com/find/pxa_manuals. You may also reference the X-Series Signal Analyzer On-line Help System for operational information.

For more information, visit the Virginia Diodes, Inc. website at: <https://www.vadiodes.com/en/products/signal-generator>

Contacting Keysight

When shipping the product to Keysight for repair, use original or comparable packaging.

Assistance with test and measurement needs, and information on finding a local Keysight office are available on the Internet at: <http://www.keysight.com/find/assist>

You can also purchase accessories or find documentation items on the Internet at: <http://www.keysight.com/find>

If you do not have access to the Internet, contact your field engineer.

NOTE

In any correspondence or telephone conversation, refer to the Keysight product by its model number and full serial number. With this information, the Keysight representative can determine the warranty status of your unit.



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www.keysight.com