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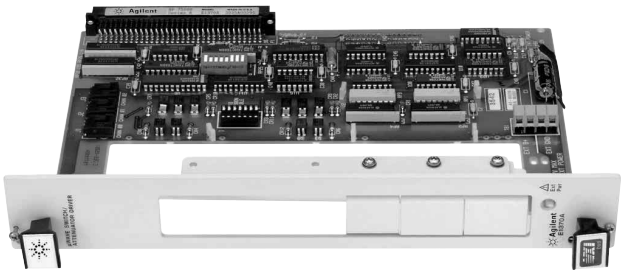
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Find the *Keysight / Agilent E1370A* at our website: ***Click HERE***

Agilent E1370A
Microwave Switch/Step Attenuator Driver

Data Sheet

- 2-Slot, B-size, register based
- Switching and attenuation up to 26.5 GHz
- Drive any Agilent 8766K/67K/68K/69K microwave switch
- Drive any Agilent 3332XG prog. step attenuator
- Programmable 1 or 10 dB steps up to 110 dB
- Select internal or use external energizing power



Agilent E1370A

Description

The Agilent E1370A Switch/Step Attenuator Driver is a **B-size, 2-slot, register-based VXI module.** It provides room for you to install one single-pole multithrow microwave switch or a programmable step attenuator.

The 8766K/8767K/8768K/8769K single-pole, multithrow switches can be installed, providing 3-, 4-, 5-, or 6-throw switching. Alternatively, the 33320G/H, 33321G/H, 33322G/H, and 33323K step attenuators can be installed providing broadband accuracy, high repeatability over a long life, and rapid switching flexibility. Whichever device you choose, you must order each one separately.

This module contains the control, drive, and power circuitry for mounting and controlling the microwave switches or step attenuators. It comes with a 14-pin DIP socket for connecting one microwave switch or step attenuator either in the module or remotely.

Refer to the Agilent Technologies Website for instrument driver availability and downloading instructions, as well as for recent product updates, if applicable.

Documentation Available

Please request the Agilent Microwave Test Accessories Catalog for additional information.

Cabling

For frequencies up to 18 GHz, use a good quality flexible cable and SMA connectors. For frequencies above 18 GHz, use semi-rigid type cable and APC 3.5 connectors.

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Product Specifications

Single-Pole MultiThrow Microwave Switches

Configuration:

8766K:	SP3T unterminated
8767K:	SP4T unterminated
8768K:	SP5T unterminated
8769K:	SP6T unterminated
Connectors:	APC-3.5 (SMA compatible) all switches. (Opt 002 deletes APC and adds SMA.)
Impedance:	50 Ω
Frequency range:	dc–26.5 GHz
Life and repeatability:	0.03 dB @ 10^6 cycles per section
Power average/peak:	1 W avg, 100 W peak (+ 7 Vdc) *(nonswitching)*
Repeatability:	0.03 dB max *(typically 0.01 dB over 5 million switching cycles per section)*
Max RF power:	1 W avg, 100 W peak (10μs)

Programmable Step Attenuators

Model	Frequency Range (GHz)	Atten / Steps	Insertion Loss @ 0 dB	SWR Maximum
33320G	DC - 4	0-11 / 1 dB steps	0.6 dB + 0.09 dB/GHz	4 GHz: 1.5
33320H	DC - 18	0-11 / 1 dB steps	0.6 dB + 0.09 dB/GHz	8 GHz: 1.5 12.4 GHz: 1.6 18 GHz: 1.9
33321G	DC - 4	0-70 / 10 dB steps	0.4 dB + 0.07 dB/GHz	4 GHz: 1.35
33321H	DC - 18	0-70 / 10 dB steps	0.4 dB + 0.07 dB/GHz	8 GHz: 1.35 12.4 GHz: 1.5 18 GHz: 1.7
33322G	DC - 4	0-110 / 10 dB steps	0.6 dB + 0.09 dB/GHz	
33322H	DC - 18	0-110 / 10 dB steps	0.6 dB + 0.09 dB/GHz	8 GHz: 1.5 12.4 GHz: 1.6 18 GHz: 1.9
33323K	DC - 26.5	0-90 / 10 dB steps	0.6 dB + 0.09 dB/GHz	6 GHz: 1.25 12.4 GHz: 1.45 18 GHz: 1.6 26.5 GHz: 1.8

Note: SMA female connectors standard on all attenuators. See ordering information for other connectors.

Instrument Drivers

See the Agilent Technologies Website (http://www.agilent.com/find/inst_drivers) for driver availability and downloading.

Command module firmware:	Downloadable
Command module firmware rev:	A.01
I-SCPI Win 3.1:	Yes
I-SCPI Series 700:	Yes
C-SCPI LynxOS:	Yes
C-SCPI Series 700:	Yes
Panel Drivers:	Yes
VXI*plug&play* Win Framework:	No
VXI*plug&play* Win 95/NT Framework:	Yes
VXI*plug&play* HP-UX Framework:	No

General Specifications

VXI Characteristics

VXI device type:	Register based, A16, slave only
Size:	B
Slots:	2
Connectors:	P1
Shared memory:	None
VXI busses:	None
C-size compatibility:	Requires E1403C

Module Current

	I_{PM}	I_{DM}
+5 V:	0.1	0
+12 V:	0	0
–12 V:	0	0
+24 V:	0	0
–24 V:	0	0
–5.2 V:	0	0
–2 V:	0	0

Cooling/Slot

Watts/slot:	5.00
ΔP mm H_2O:	0.08
Air Flow liter/s:	0.50

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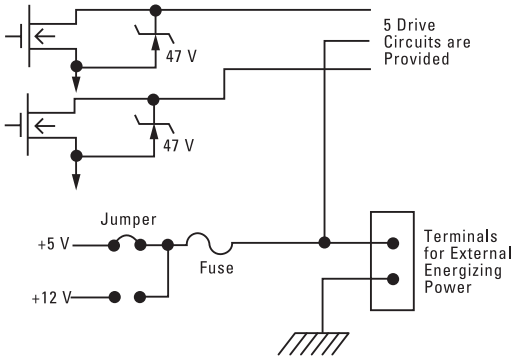
Ordering Information

Description	Product No.
Microwave Switch/Step Attenuator Driver	E1370A
Programmable step attenuator, dc - 4 GHz	33320G*
Programmable step attenuator, dc - 4 GHz	33320H*
Programmable Step Attenuator	33321G*
Programmable Step Attenuator	33321H*
Programmable Step Attenuator	33322G*
Programmable Step Attenuator; 110 dB Max	33322H*
Programmable Step Attenuator	33323K*

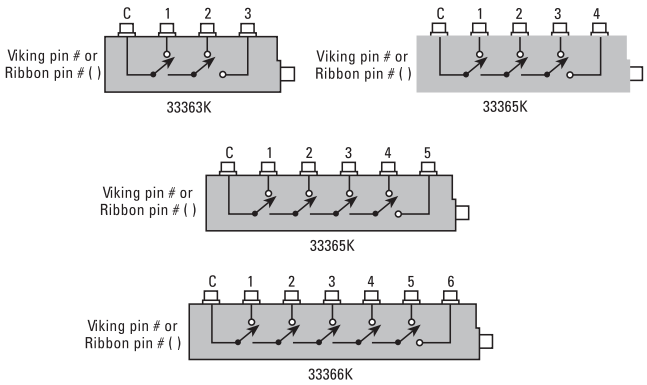
**NOTE: Order all of the above attenuators with Option 011 (5 V solenoid) and Option 008 (8-inch cable) for mounting on the E1370A, or order Option 016 (16-inch cable) for external mounting.*
Other options available are:
Option 020 (233 mm long ribbon cable assembly)
Option 890 (attenuator calibration data)
Option UKS (certificate of calibration)

Description	Product No.
SP3T Multi-Port Switch	8766K**
SP4T Multi-Port Switch	8767K**
SP5T Multi-Port Switch	8768K**
SP6T Multi-Port Switch	8769K**

***NOTE: Other options available are:*
Option 002 (replaces 3.5 mm (f) with SMA (m) connectors)
Option 008 (8-inch ribbon cable with DIP connector)
Option 011 (5 Vdc supply voltages)
Option 015 (15 Vdc supply voltages)
Option 016 (16-inch ribbon cable with DIP connector)
Option UK6 (commercial calibration test data with certificate)
Option UKS (commercial calibration certificate)



Agilent E1368A/E1369A/E1370A Drive Circuits



Single-Pole Multithrow Microwave Switching

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Related Literature

2000 Test System and VXI Catalog CD-ROM,
Agilent Pub. No. 5980-0308E (detailed specifications for VXI products)

2000 Test System and VXI Catalog,
Agilent Pub. No. 5980-0307E (overview of VXI products)

1998 Test System and VXI Products Data Book,
Agilent Pub. No. 5966-2812E

Online

Internet access for Agilent product information, services and support
www.agilent.com/find/tmdir

VXI product information
www.agilent.com/find/vxi

Defense Electronics Applications
www.agilent.com/find/defense_ATE

Agilent Technologies VXI Channel Partners
www.agilent.com/find/vxichanpart

Agilent Technologies' HP VEE Application Website
www.agilent.com/find/vee

Agilent Technologies Data Acquisition and Control Website
www.agilent.com/find/data_acq

Agilent Technologies Instrument Driver Downloads
www.agilent.com/find/inst_drivers

Agilent Technologies Electronics Manufacturing Test Solutions
www.agilent.com/go/manufacturing

Get assistance with all your test and measurement needs at
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