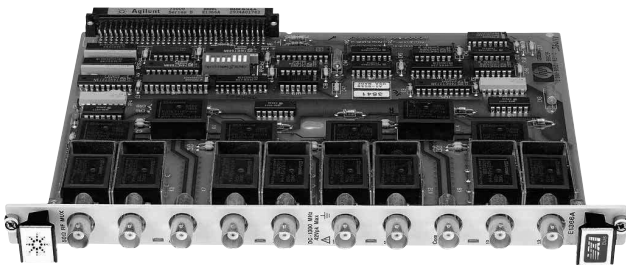


Agilent E1366A

Dual 1x4, 50 Ω RF Multiplexer

Data Sheet

- 1-Slot, B-size, register based
- Two 1x4 multiplexers
- Up to 1.3 GHz signals switched
- BNC connectors
- Off-channels terminated
- Low insertion loss



Agilent E1366A

Description

The Agilent E1366A 50 Ω RF Multiplexer is a **B-size, 1-slot, register-based VXI module**. It is the ideal choice to switch test signals to your oscilloscope and spectrum, network, distortion analyzers, or other RF equipment. The E1366A is identical to the E1367A, except that the E1367A has a 75 Ω characteristic impedance.

Switching consists of connecting a channel to its common terminal. The E1366A can easily be used with SCPI commands to scan multiple channels, where each channel is switched to its common, one at a time. When open (disconnected from common), each channel is connected to a 50 Ω termination.

This multiplexer module is arranged as two independent banks of channels (Bank 0 and Bank 1), each acting as a 1x4 one-wire multiplexer. Only one channel in each bank can be connected to its common at any time. Each channel consists of a nonlatching armature relay. At power-on or reset, all channels are open and connected to their termination resistors. The termination resistor can be removed if desired. The multiplexer relays are arranged in a tree-switched configuration, providing high isolation and low VSWR.

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

Cables and Connectors

Various 50 Ω cables are available from Agilent for connecting to the BNC connectors on the front panel of the multiplexer. Adapters and other connectors are also available.

C-size Adapter

For installing the E1366A in a C-size mainframe, the E1403C active adapter is recommended.

Product Specifications

Input

Maximum voltage (center or shield-to-center, shield or chassis):	42 V
Maximum current (per channel or common):	
DC:	1 A
AC rms:	1 A
Maximum power (per channel or common):	
DC:	24 W
AC:	24 VA

DC

Maximum thermal offset:	6 μ V
Closed channel resistance (typical):	<1 Ω initial, <3 Ω end of relay life
Insulation resistance (between any two points):	>10E8 Ω \leq 40 $^{\circ}$ C, \leq 65% RH



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AC

Note: For AC performance, $Z_L = Z_S = Z_0$, $\leq 40^\circ\text{C}$, $RH \leq 95\%$ for C-size, $RH \leq 65\%$ for B-size

Characteristic impedance

(Z_0): 50 Ω

Insertion loss:

<10 MHz: <0.3 dB
<100 MHz: <0.7 dB
<500 MHz: <1.5 dB
<1.3 GHz: <3.0 dB
<3 GHz (typ): n/a

Crosstalk (channel-to-channel):

Derate crosstalk specifications by 6 dB if all channels are unterminated.

<10 MHz: <-90 dB
<100 MHz: <-80 dB

Crosstalk (channel-to-channel, one channel closed or channel-to-common) (terminated):

Derate crosstalk specifications by 6 dB if all channels are unterminated.

<200 MHz: n/a
<500 MHz: <-60 dB
<1.3 GHz: <-40 dB
<3 GHz (typ): n/a

VSWR:

<10 MHz: <1.2
<100 MHz: <1.25
<200 MHz: n/a
<500 MHz: <1.35
<1.3 GHz: <1.55
<3 GHz: n/a

Risetime: <300 ps

Signal delay: <3 ns

Capacitance:

Center-shield: <60 pF
Chassis-shield: <0.15 μF

General Characteristics

Relays: Non-latching armature

Power up/down state: All open

Minimum relay life:

No load: 5×10^6 operations
Rated load: 10^5 operations

General Specifications

VXI Characteristics

VXI device type: Register based, A16, slave only

Size: B

Slots: 1

Connectors: P1

Shared memory: None

VXI busses: None

C-size compatibility: Requires E1403C

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

VXIplug&play Win

Framework: No

VXIplug&play Win95/NT

Framework: No

VXIplug&play HP-UX

Framework: No

Module Current

	I_{PM}	I_{DM}
+5 V:	0.1	0.01
+12 V:	0.18	0.01
-12 V:	0	0
+24 V:	0	0
-24 V:	0	0
-5.2 V:	0	0
-2 V:	0	0

Cooling/Slot

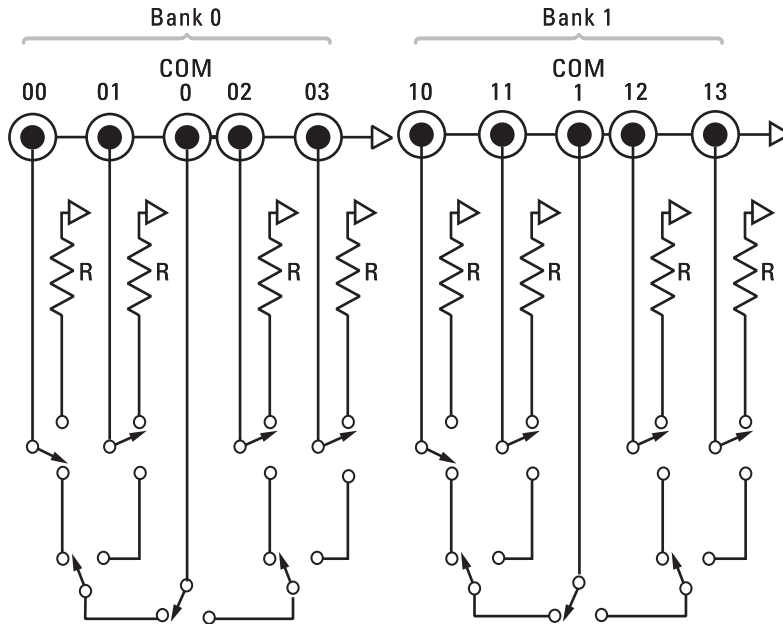
Watts/slot: 3.00

ΔP mm H₂O: 0.05

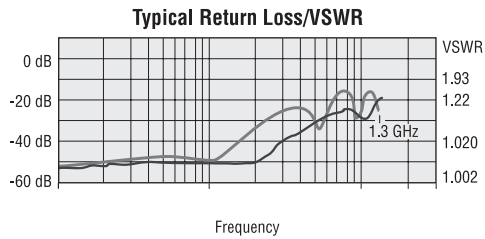
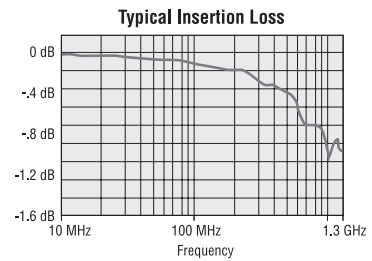
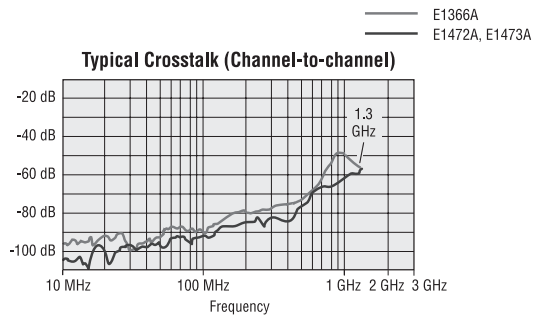
Air Flow liter/s: 0.25

Ordering Information

Description	Product No.
Dual 1x4 50 Ω RF Multiplexer	E1366A
Service Manual	E1366A 0B3



Agilent E1366A Circuit Diagram



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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Phone or Fax

United States:
(tel) 1 800 829 4444

Canada:
(tel) 1 877 894 4414
(fax) (905) 282 6495

China:
(tel) 800 810 0189
(fax) 800 820 2816

Europe:
(tel) (31 20) 547 2323
(fax) (31 20) 547 2390

Japan:
(tel) (81) 426 56 7832
(fax) (81) 426 56 7840

Korea:
(tel) (82 2) 2004 5004
(fax) (82 2) 2004 5115

Latin America:
(tel) (305) 269 7500
(fax) (305) 269 7599

Taiwan:
(tel) 0800 047 866
(fax) 0800 286 331

Other Asia Pacific Countries:
(tel) (65) 6375 8100
(fax) (65) 6836 0252
(e-mail) tm_asia@agilent.com

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Printed in the U.S.A. May 1, 2004
5965-5608E



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