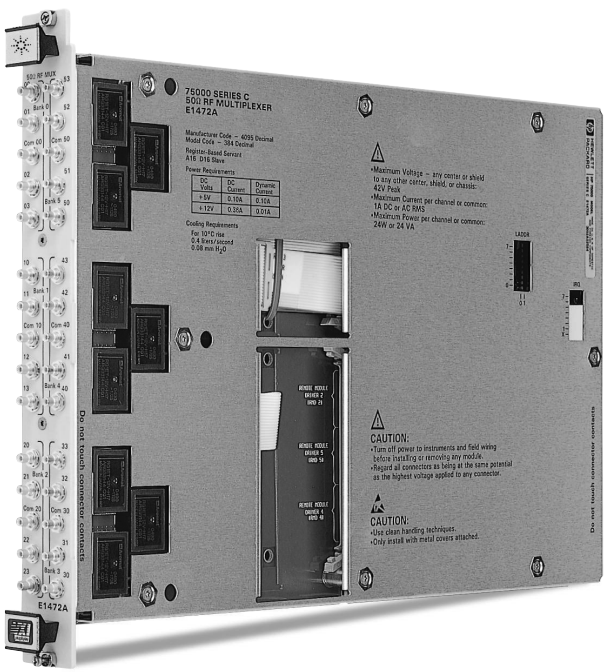
Agilent E1472A
Six 1x4, 50 Ω RF Multiplexer
Data Sheet

- **1-Slot, C-size, register based**
- **Six 1x4 multiplexers**
- **Switch signals up to 1.3 GHz**
- **SMB male connectors for high performance**
- **Controls E1473A/E1475A RF expanders**
- **Tree-switching for high isolation, low VSWR**



Agilent E1472A

Description

The Agilent E1472A 50 Ω RF Multiplexer is a **C-size, 1-slot, register-based VXI module.** It is the ideal choice to route test signals from your application to your test instruments (i.e., oscilloscope and spectrum, network, distortion analyzers, or other RF equipment). The E1472A is functionally identical to the E1474A except for output impedance.

The RF multiplexer can be used as six multiplexers or combined with others to form a larger tree-switched multiplexer or a limited stubless matrix. You can easily and inexpensively expand the E1472A via the E1473A 50Ω RF multiplexer expander or via the E1475A 75Ω RF multiplexer expander.

The E1472A can easily be programmed with SCPI commands to scan multiple channels, where each channel is switched to its common, one at a time. This module is arranged as six independent banks of channels (Bank 0 through Bank 5), each acting as a 1x4 one-wire multiplexer. Only one channel in each bank can be connected to its common at any time. The multiplexer relays are arranged in a tree-switched configuration, providing high isolation and low VSWR. Each channel consists of a nonlatching armature relay.

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

Configuration

Each channel consists of a non-latching armature relay. At power-on or reset, channels 00, 10, ... 50 are connected to COM 00, 10, ... 50, respectively, and all other channels are open (unterminated).
The RF multiplexer can be used as six multiplexers or combined with others to form a larger tree-switched multiplexer or a limited stubless matrix as shown in the accompanying diagram.

To expand the E1472A refer to the E1473A 50Ω RF multiplexer expander or the E1475A 75Ω RF multiplexer expander. The E1472A can control other external relays requiring 5V, 12V, or 24V drive.

Cables and Connectors

Various 50 Ω cables are available from Agilent for connecting to the SMB connectors on the front panel of the multiplexer. Adapters and other connectors are also available. Connectors are also available from Johnson Components.
Johnson Components:

U.S.A. Tel.:	1-800-247-8256
Outside U.S.A. Tel.:	(507) 835-6222
Fax.:	(507) 835-8356

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 μV
Closed channel resistance (typical):	<1 Ω initial
Insulation resistance (between any two terminals):	>10E8 Ω ≤40 °C, ≤65% RH

AC

Note: For AC performance, ZL=ZS=ZO, ≤40 °C, RH ≤95% for C-size, RH ≤65% for B-size

Characteristic impedance (Zo):	50 Ω
Insertion loss:	
<10 MHz:	<0.1 dB
<100 MHz:	<0.4 dB
<500 MHz:	<0.9 dB
<1.3 GHz:	<1.5 dB
<3 GHz (typ):	<8.0 dB
Crosstalk (channel-to-channel):	
<10 MHz:	<–90 dB
<100 MHz:	<–80 dB
Crosstalk (channel-to-channel, one channel closed or channel-to-common) (terminated):	
<200 MHz:	n/a
<500 MHz:	<–62 dB
<1.3 GHz:	<–50 dB
<3 GHz (typ):	n/a
VSWR:	
<10 MHz:	<1.05
<100 MHz:	<1.15
<200 MHz:	n/a
<500 MHz:	<1.35
<1.3 GHz:	<1.5
<3 GHz:	n/a
Risetime:	<300 ps
Signal delay:	<3 ns
Capacitance:	
Center-shield:	n/a
Chassis-shield:	n/a

General Characteristics

Relays:	Non-latching armature
Power up/down state:	All open
Minimum relay life:	
No load:	5x10E6 operations
Rated load:	10E5 operations

General Specifications

VXI Characteristics

VXI device type:	Register based, A16, slave only
Size:	C
Slots:	1
Connectors:	P1/2
Shared memory:	None
VXI busses:	None
C-size compatibility:	n/a

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.02
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:	Yes
VXI*plug&play* Win95/NT Framework:	Yes
VXI*plug&play* HP-UX Framework:	No

Module Current

	I_{PM}	I_{DM}
+5 V:	0.1	0.1
+12 V:	0.36	0.01
–12 V:	0	0
+24 V:	0	0
–24 V:	0	0
–5.2 V:	0	0
–2 V:	0	0

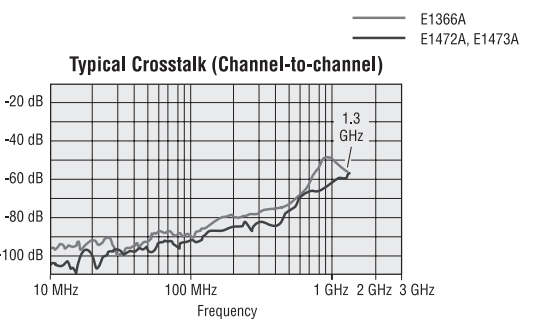
Cooling/Slot

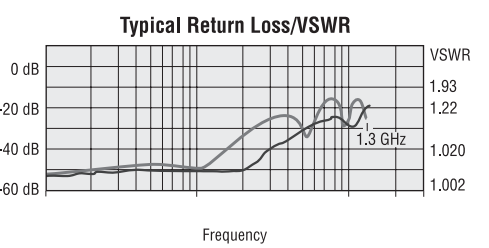
Watts/slot:	6.00
ΔP mm H_2O:	0.10
Air Flow liter/s:	0.50

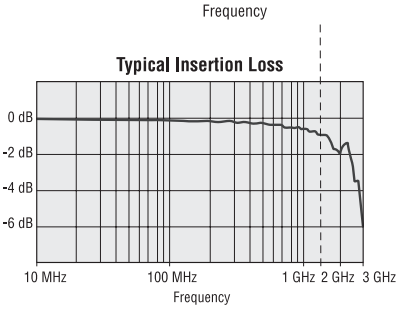
Ordering Information

Description	Product No.
Six 1x4 50 Ω RF Multiplexer	E1472A
Service Manual	E1472A 0B3
3 yr. Retn. to Agilent to 1 yr. OnSite Warr.	E1472A W01

Agilent E1472A front panel detail







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
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Agilent Technologies Instrument Driver Downloads
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