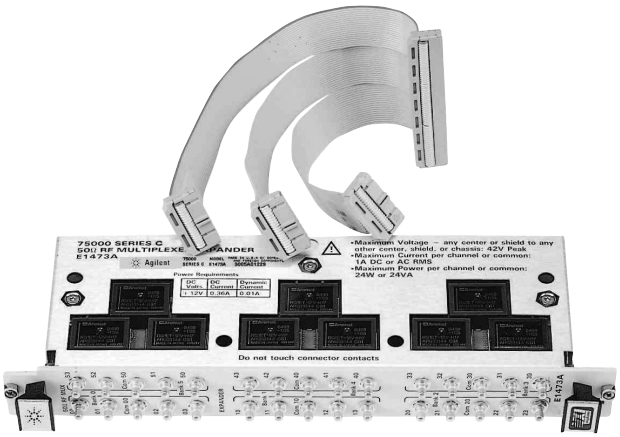
Agilent E1473A

Six 1x4, 50 Ω RF Multiplexer Expander

Data Sheet

- 1-Slot, C-size, register based
- Six 1x4 multiplexers
- Switch signals up to 1.3 GHz
- SMB male connectors for high performance
- Requires the E1472A/E1474A RF MUXes
- Can be externally mounted up to 8 meters away



Agilent E1473A

Description

The Agilent E1473A 50Ω RF Multiplexer Expander is a **C-size, 1-slot, register-based VXI module.** It is the ideal choice to inexpensively increase system switching capacity to switch test signals from your application to your test instruments such as oscilloscope and spectrum, network, distortion analyzers, or other RF equipment.

The E1473A expander is connected to, and requires, either an E1472A or E1474A RF multiplexer in the same system. Up to two E1473A multiplexer expanders can be connected to one multiplexer, providing a total of eighteen 1x4 multiplexer banks. You can mix and match the E1473A 50Ω and E1475A 75Ω expanders with the E1472A 50Ω and E1474A 75Ω multiplexers.

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

Configuration

The Agilent E1473A can be installed in a VXI C-size slot, adjacent to the E1472A (or E1474A), or rack mounted externally up to eight meters from the VXI mainframe using remote extender cables. The adjacent slot can be used by another module, making the multiplexer expander a slotless device. Remote installation of the E1473A expander close to the device under test allows the test cable length to be kept as short as possible, reducing signal delay and insertion loss.

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If the expander is to be physically located away from the mainframe, order the Cable Extension Kit (P/N E1473-80002). Each kit includes two 0.8 meter cables, each controlling three of the six expander banks. Up to ten extender cables can be daisy-chained. Therefore, to remotely install one E1473A expander at a distance of eight meters, controlling all six multiplexer banks, requires ten E1473-80002 kits.

The switching sections of the E1473A 50 Ω RF multiplexer expander and the E1472A 50 Ω RF multiplexer are identical. 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. At power-on or reset, channels 00, 10, . . . 50 are connected to COM 00, 10, . . . 50, respectively, and all other channels are open (unterminated).

Cables and Connectors

Various 50 Ω cables are available from Agilent for connecting to the SNB connectors on the front panel of the multiplexer. Adapters and other connectors are also available. Connectors are also available from 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 rms:** 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, ≤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
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, with E1472A
VXI*plug&play* Win Framework:	Yes
VXI*plug&play* Win95/NT Framework:	Yes
VXI*plug&play* HP-UX Framework:	No

Module Current

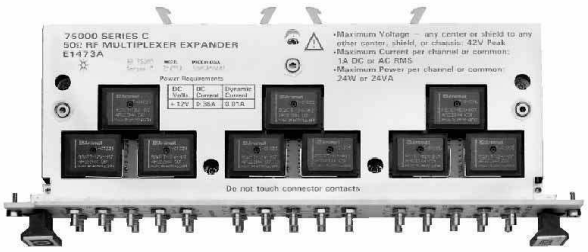
	I_{PM}	I_{DM}
+5 V:	0	0
+12 V:	0.36	0
–12 V:	0	0
+24 V:	0	0
–24 V:	0	0
–5.2 V	0	0
–2 V:	0	0

Cooling/Slot

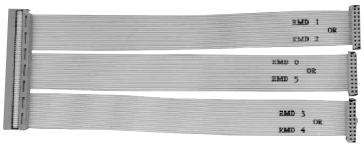
Watts/slot:	1.00
ΔP mm H_2O:	0.02
Air Flow liter/s:	0.10

Ordering Information

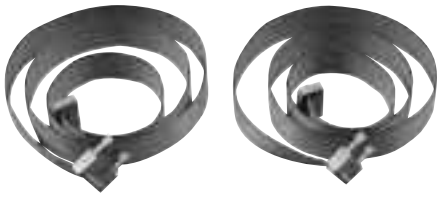
Description	Product No.
Six 1x4 50 Ω RF Multiplexer Expander	E1473A
Service Manual	E1473A 0B3
RF MUX Cable Kit for E1473A RF Expander	E1473-80002



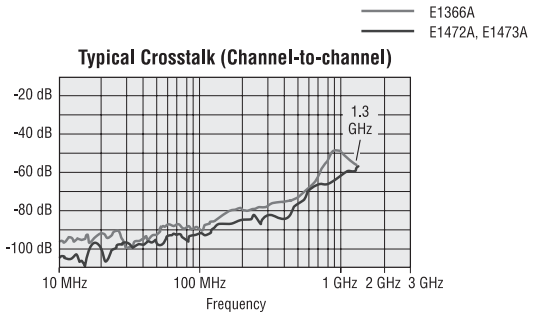
Agilent E1473A expander module top view

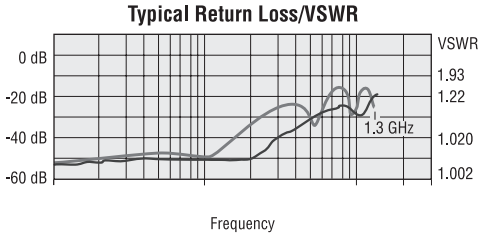


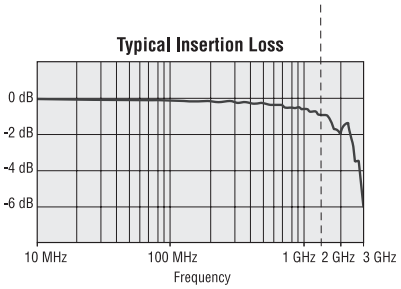
Module-to-backplane cables



Remote expander cables







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
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Get assistance with all your test and measurement needs at
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