Six 1x4, 75 Ohm RF Multiplexer Expander
HP E1475A

Technical Specifications

- **Six 1x4 multiplexers; switch signals up to 1.3 GHz**
- **SMB male connectors for high performance**
- **75 ohm SMB male connectors (same size as 50 ohm)**
- **Used with the HP E1472A/HP E1474A**
- **Can be externally mounted up to 8 meters away**

Description

The HP E1475A 75 Ohm RF Multiplexer Expander is a **C-size, 1- slot, register-based VXI module.** It is the ideal choice to inexpensively increase system switching capacity for video and telecommunications applications.

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

The HP E1475A can be installed in a VXI C-size slot, adjacent to the HP E1474A (or HP E1472A), 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 up to eight meters allows the HP E1475A expander to be located close to the device under test allowing the test cable length to be kept as short as possible, thus reducing signal delay and insertion loss.

Refer to the HP Website for instrument driver availability and downloading instructions.

Configuration

The HP E1475A can be installed in a VXI C-size slot, adjacent to the HP E1474A (or HP E1472A), 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 up to eight meters allows the HP E1475A expander to be located close to the device under test allowing the test cable length to be kept as short as possible, thus reducing signal delay and insertion loss.

If the expander is to be physically located away from the mainframe, order the Cable Extension Kit (HP P/N E1473-80002). Each kit includes two 0.8 meter cables, each cable controlling three of the six expander banks. Up to 10 extender cables can be daisy-chained. Therefore, to remotely install one HP E1475A expander at a distance of eight meters, controlling all six multiplexer banks, requires ten E1473-80002 kits.

The switching sections of the HP E1475A 75 Ohm RF multiplexer expander and the HP E1474A 75 Ohm 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 75 Ohm cables are available from HP for connecting to the SNB connectors on the front panel of the multiplexer. Adaptors 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

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 Ohm initial
Insulation resistance (between any two terminals):	>10E8 Ohm ≤40 °C, ≤65% RH

AC

(Note: For AC performance, ZL=ZS=ZO, ≤40 ° C, RH ≤95%)

Characteristic impedance (Zo):	75 Ohm
Insertion loss:	
<10 MHz:	<0.3 dB
<100 MHz:	<0.4 dB
<500 MHz:	<0.8 dB
<1.3 GHz:	<1.0 dB
<3 GHz (typ):	n/a
Crosstalk (channel-to-channel):	
<10 MHz:	<−85 dB
<100 MHz:	<−75 dB
Crosstalk (channel-to-channel, one channel closed or channel-to-common) (terminated):	
<200 MHz:	n/a
<500 MHz:	<−60 dB
<1.3 GHz:	<−42 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
Minimum relay life:	
No load:	5x10E6 operations
Rated load:	10E5 operations

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 HP Website (http://www.hp.com/go/inst_drivers) for driver availability and downloading.

Command module firmware:	ROM
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
HP VEE Drivers:	Yes
VXI*plug&play* Win Framework:	Yes
VXI*plug&play* Win95/NT Framework:	Yes
VXI*plug&play* HP-UX Framework:	No (not available at time of publication)

Module Current

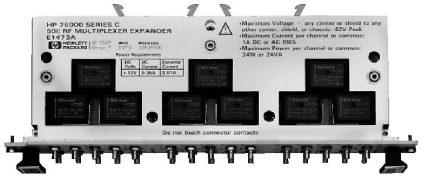
	I_{PM}	I_{DM}
+5 V:	0	0
+12 V:	0.36	0
−12 V:	0	0
+24 V:	0	0
−24 V:	0	0
−5.2 V:	0	0
−2 V:	0	0

Cooling/Slot

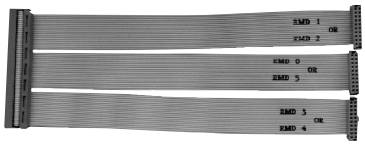
Watts/slot:	1.00
ΔP mm H_2O:	0.02
Air Flow liter/s:	0.10

Ordering Information

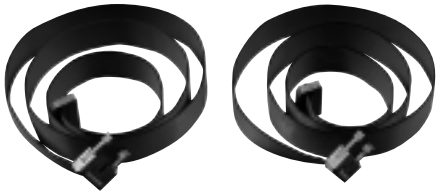
Description	Product No.
75 OHM RF MULTIPLEXER EXPANDER	HP E1475A
Service manual	HP E1475A 0B3
3 yr. retn. to HP to 1 yr. OnSite warr.	HP E1475A W01
RF mux cable kit for E1473A RF expander	HP E1473-80002



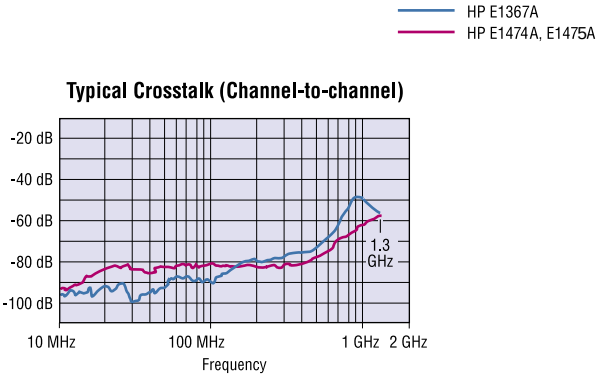
HP E1475A expander module top view



Module-to-backplane cables



Remote expander cables



HP Publication No.: 5965-5617E