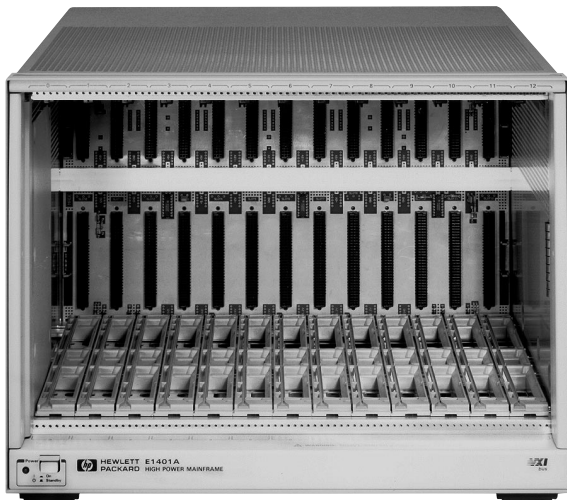

C-Size VXI, Hi-Power Mainframe, 13-Slot HP E1401B

Technical Specifications

- High peak and dynamic currents (I MP and I MD)
- Ultra-reliable power supply
- Easy to service while mounted in a test rack
- MTTR 5 minutes for power supply or fans
- Improved, uniform airflow



Description

The HP E1401B is **Hewlett-Packard's highest-power, highest-performance C-size, 13-slot VXI mainframe**. Ample dynamic and peak currents are available for even the most demanding, power-hungry applications.

The HP E1401B is well suited for applications that require high-density instrumentation. The HP E1401B complies with the *VXIplug&play* Specification, and an optional rack mount kit is available for attaching *VXIplug&play*-defined interconnect fixtures. This mainframe also complies with the VXI Specification by providing injector surface rails used by the new HP QUIC easy module insertion and extraction system. HP's industry-leading Pressurized Air Channel cooling technology is integrated into this C-size mainframe.

This mainframe provides for easy airflow and power supply serviceability via the rear panel. The backplane features solid state automatic daisy-chain jumpering for VMEbus grant and interrupt acknowledge lines, eliminating the need for hand selection of switch settings. It is also compatible with the HP backplane connector shield kit (p/n E1400-80920).

General Characteristics

Airflow and Power Supply Serviceability

- Power input and cooling air intake is through the rear
- Power supply is serviceable through the rear panel
- Cooling air exhaust is through the sides and top
- Three air filters are mounted on the rear panel, accessible without tools for cleaning
- Cableless power supply interconnect to the backplane eliminates risk of miswiring

Specifications

VXI Characteristics

VXI device type:	mainframe
Data transfer bus:	all per VXIbus Specification, Rev 1.4
Size:	C
Slots:	13
Connectors:	P1/2
Shared memory:	n/a
VXI busses:	All per VXIbus Specification, Rev 1.4

Remote Monitoring

A connector on the rear panel provides access to all the power supply voltages, remote on/standby, ACFAIL, SYSRESET, and +5VSTDBY.

Mechanical Specifications

	mm	inches
Height without bottom feet:	310	12.2
Height with bottom feet:	323	12.7
Height with cable tray:	352 or 396	13.9 or 15.7
Width	426	16.8
Depth without rear feet:	586	23.1
Depth with rear feet:	602	23.7
Weight:	21 kg / 46 lbs	

Allow at least 100 mm (4 in) in front of the mainframe for terminal modules and cabling.

Power Specifications

Power output:

The power supply generates backplane logic signals ACFAIL* and SYSRESET* in full compliance with the VXI Specification, Revision 1.4.

DC Output Voltage	Pk Current at 40 °C I _{MP}	Pk Current at 55 °C I _{MP}	Dynamic Current I _{MD}
+5 V	65 A	60 A	9.0 A
+12 V	14 A	12 A	2.5 A
–12 V	14 A	12 A	2.5 A
+24 V	14 A	12 A	5.0 A
–24 V	12 A	10 A	5.0 A
–5.2 V	65 A	60 A	8.5 A
–2 V	35 A	30 A	4.5 A
Temp.	Available Power 120– 240 Vac ⁽¹⁾	Usable Power 120– 240 Vac Input ⁽²⁾	Usable Power 100 Vac Input ⁽²⁾
25 °C	1690 W	900 W	650 W
40 °C	1690 W	800 W	650 W
55 °C	1488 W	700 W	650 W

(1) Sum of voltages times the currents—not always usable due to thermal shutdown.

(2) Total output before thermal protection shutdown.

Power Supply Protection

All outputs are protected from over-temperature, over-voltage, over-current, short-to-ground, and short to other supplies. Protection mode is full shutdown. Recovery occurs when standby or line is recycled.

Power Input

Input voltage:	100 Vac to 240 Vac
Input frequency:	50 Hz to 400 Hz
Inrush current:	40 A max
+5VSTDBY:	1 A max (user-supplied; power taps located on rear for input of standby voltage and ground to backplane)

Cooling

Temperature rise:	10 °C (through a 60 W module with typical density), 15 °C (through a 75 W module)
-------------------	---

Environmental and Regulatory

Acoustic Noise

Low-speed fan:	48 dBA sound pressure (at bystander position)
High-speed fan:	56 dBA sound pressure (at bystander position)

Shielding

Intermodule:	Intermodule gasketing provided per VXI Rev. 1.4, B.7.2.3
Backplane:	Backplane connector shields per VXI Rev. 1.4, B.7.2.3 (available as Opt 918 and as a separate accessory, HP E1400-80920)
Intermodule chassis:	Intermodule chassis shields per VXI Rev. 1.4, B.7.3.4 (available as a separate product, HP E1409B)

Electromagnetic Compliance

To ensure compliance with RFI levels specified in standards EN55011 and CISPR11, the Backplane Connector Shields must be installed in the mainframe. Order Option 918 to get shields installed at the factory.

EMC MIL-STD-461 Specifications

Within the requirements of MIL-STD-461 methods CE01, CE03 (relaxed 30 dB below 2 MHz, relaxed 10 dB between 2 and 15 MHz), CS01, CS02, CS06, RE01 (relaxed to 10 dB), RE02, RS02, and RS03

Available Current

	I _{PM}	I _{DM}
+5 V:	60.00	9.00
+12 V:	12.00	2.50
–12 V:	12.00	2.50
+24 V:	10.00	5.00
–24 V:	10.00	5.00
–5.2 V:	60.00	8.50
–2 V:	30.0.	4.50

Cooling/Slot

Watts/slot:	60 W (10 °C rise)
ΔP mm H ₂ O:	n/a
Air Flow liter/s:	n/a

Recess Rack-Mounting Configuration Guide

Find the column (A, B, C, etc.) that contains the desired rack-mounting components, then follow the column down for ordering information.

*See Chapter 11 for details.

(1) Recess rack mounting is preferred for VXI mainframes using modules with HP QUIC terminal blocks (see Chapter 11). Recess rack mounting allows room for these terminal blocks in a standard rack with a door.

Recommended Configurations

Desired rack-mounting Components	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Basic Recessed Rack-Mount	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Mass Interconnect* ●Direct Access ICA ●Hinged ICA	*	*		*										
Smoked Acrylic Door					*	*	*	*	*					
Rack slides:	*		*		*					*				
Cable Tray: ●44.5 mm (1.75 in) or ●88.9 mm (3.5 in):	*	*	*	*	*	*	*			*	*	*		
Handles:					*	*		*		*	*		*	

You Need to Order

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	For reorders use part number
Option 908: Flange Kit							X		X			X		X	5062-3981
Option 909: Handle and Flange Kit					X	X		X		X	X		X		5062-3987
Option 914: Cable Tray Kit					X	X	X			X	X	X			E1400-80004
Option 915: Smoked Acrylic Door Kit					X	X	X	X	X						E1400-80915
Option 916: Recess Mount Kit					X	X	X	X	X	X	X	X	X	X	E1401-80916
HP E3665A: Rail Kit (preferred for HP E366XA Racks)				X			X	X	X	X		X	X	X	HP E3665A
Option 917: VXI Support Rail Kit		X		X			X	X	X	X		X	X	X	E1401-80917
Rail Kit from non-HP rack Vendor		X		X			X	X	X	X		X	X	X	Not sold by HP
1494-0058: Heavy Duty Rack Slide Kit:	X		X		X					X					1494-0058
1494-0064: Slide Brackets (For non-HP racks):	X		X		X					X					1494-0064
HP E3720: Direct Access ICA*	X	X													HP E3720A
HP E3722A: Hinged ICA*			X	X											HP E3722A
E1400-80002: Cable Access Panel— 44.5 mm (1.75 in)					X	X	X			X	X	X			E1400-80002
HP 40101A: Filler Panel 44.5 mm (1.75 in)					X	X	X			X	X	X			HP 40101A

Bench Top Mounting

Find the column (A, B, or C) that contains the desired rack-mounting components, then follow the column down for ordering information.

Recommended Configurations

Desired rack-mounting Components	A	B	C
Benchtop:	*	*	*
Cable tray: ●44.5 mm (1.75 in) or ●88.9 mm (3.50 in):	*	*	
Handles:	*		*

You Need to Order

	A	B	C	For reorders use part number
Option 907 handle kit:	X		X	5062-3993
Option 914: Cable Tray Kit	X	X		E1400-80004



Select one of the choices within the shaded area.

Flush Rack-Mounting

Find the column (A, B, C, etc.) that contains the desired rack-mounting components, then follow the column down for ordering information.

Recommended Configurations

Desired rack-mounting Components	A	B	C	D	E
Basic Flush Rack-Mount	*	*	*	*	*
Cable Tray ●44.5 mm (1.75 in) or ●88.9 mm (3.5 in):	*	*	*		
Handles:	*	*		*	
Rack slides:	*				

You Need to Order

	A	B	C	D	E	For reorders use part number
Option 908: Flange Kit			X		X	5062-3981
Option 909: Handle and Flange Kit	X	X		X		5062-3987
Option 914: Cable Tray Kit	X	X	X			E1400-80004
HP E3665A: Rail Kit (preferred for HP E366XA Racks)		X	X	X	X	E1401-80917
Option 917: VXi Support Rail Kit		X	X	X	X	E1401-80917
Rail Kit from non-HP rack Vendor		X	X	X	X	Not supplied by HP
1494-0058: Heavy Duty Rack Slide Kit:	X					1494-0058
1494-0064: Slide Brackets (For non-HP racks):	X					1494-0064
E1400-80002: Cable Access Panel– 44.5 mm (1.75 in)	X	X	X			E1400-80002
HP 40101A: Filler Panel 44.5 mm (1.75 in)	X	X	X			HP 40101A

Select one of the choices within the shaded area.

Mainframe Options and Rack-mount Configuration Examples

The following is a sample mainframe order including mainframe options from the HP E1401B Ordering Guide and a rack-mount configuration taken from the Recess Rack-mounting Configuration Guide. Begin by selecting the correct chart for Bench Top Mounting, Flush Rack-mounting, or Recess Rack-mounting as desired. Check off the rack-mount components you will need and find the vertical column that matches your configuration. Follow that column down to find option and part numbers for ordering.

Recess Rack-mount Configuration

Rack-mount components selected in column F: Smoked Acrylic Door, Cable Tray, Handles. Place order for:

Mainframe Options

Qty	Description	Part No.	Option No.
1	C-size VXi Mainframe	HP E1401B	
1	Module Installation (standard settings)		500
1	Additional Service Manual		0B1
1	Warranty Conversion to 1-year on-site ⁽¹⁾		W01
	Spare Power Supply Module	0950-2283	
	Install Backplane Connector Shields		918

Rack-mount Options

Qty	Description	Option No.
1	Handle and Flange Kit	909
1	Cable Tray Kit	914
1	Smoked Acrylic Door Kit	915
1	Recess Mount Kit	916

Select one of the following based on the rack system you use:

Qty	Description	Part No.	Option No.
1	Rail Kit (use with HP E366XA Racks)	HP E3665A	
1	VXi Support Rail Kit ⁽²⁾		917
1	Rail kit from non-HP rack vendor	N/A	

Select any of the following based on need for cable access:

Qty	Description	Part No.
1	Cable Access panel (44.5 mm (1.75 in))	E1400-80002
1	Filler Panel (44.5 mm (1.75 in))	HP 40101A

(1) 3-Year return-to-HP warranty is standard.

(2) For any HP rack.

Flush Rack-mount Configuration

Components selected in column A: Cable Tray (either 44.5 mm or 88.9 mm), Handles, Rack Slides. Place order for:

Mainframe Options

Qty	Description	Part No.	Option No.
1	C-size VXi Mainframe	HP E1401B	
1	Module Installation (standard settings)		500
1	Additional Service Manual		0B1
1	Warranty Conversion to 1-year on-site ⁽¹⁾		W01
	Spare Power Supply Module	0950-2283	
	Install Backplane Connector Shields		918

Rack-mount Options

Qty	Description	Option No.
1	Handle and Flange Kit	909
1	Cable Tray Kit	914

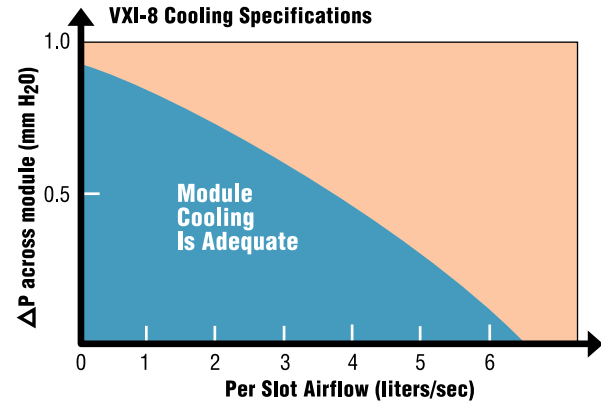
Select one of the following based on the rack system you use:

Qty	Description	Part No.
1	Heavy Duty Rack Slide Kit	1494-0058
1	Slide Brackets (for non-HP racks)	1494-0064

Select any of the following based on need for cable access:

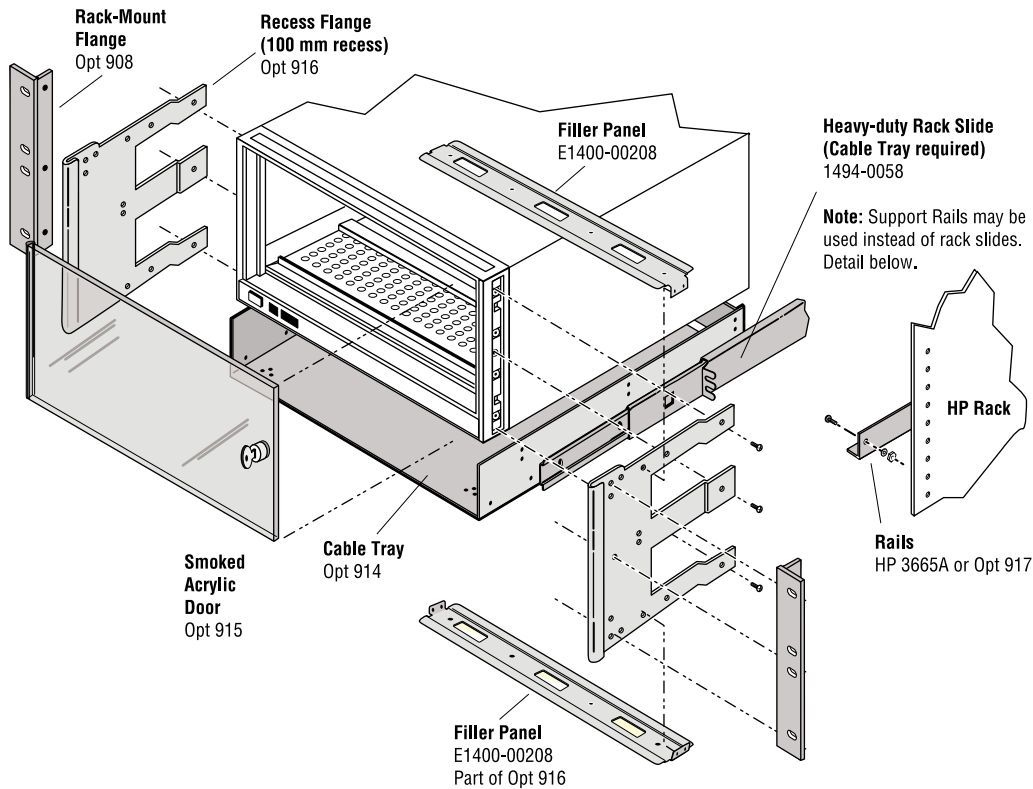
Qty	Description	Part No.
1	Cable Access panel (44.5 mm (1.75 in))	E1400-80002
1	Filler Panel (44.5 mm (1.75 in))	HP 40101A

(1) 3-Year return-to-HP warranty is standard.



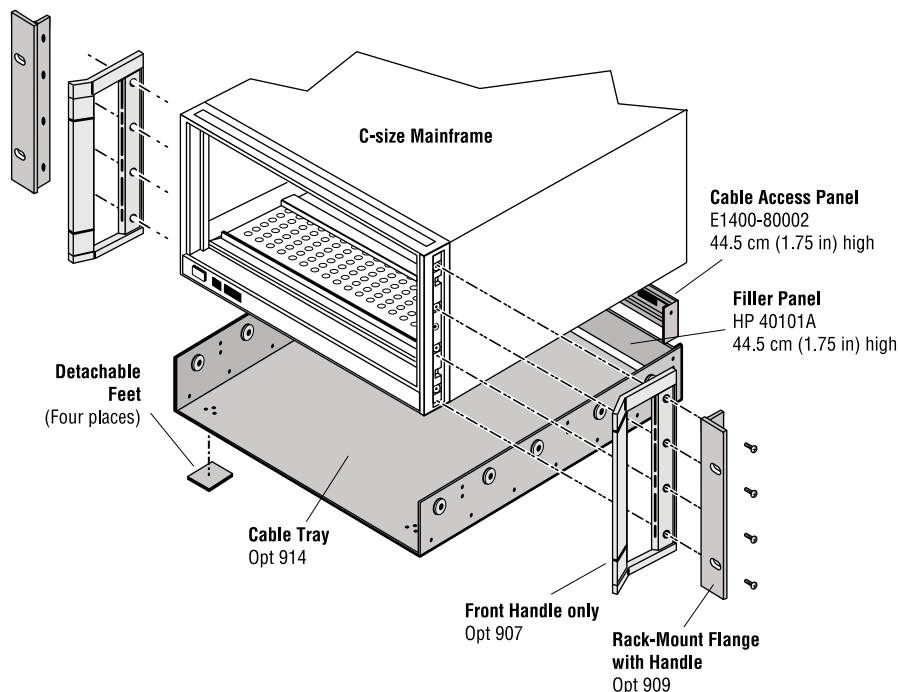
Recess and Flush Rack-Mounting Details

Note: Nonrecess rack-mounting is possible simply by mounting Rack Flanges directly to the mainframe. The Smoked Acrylic Door, however, may not be used except in the recess mounted mode with the Recess Mount Kit (Opt 916). The cable tray is optional.



Cable Tray Details

Note: Cable tray may be mounted in one of two positions, allowing either a 44.5 mm or 88.9 mm cable opening.



Ordering Information

Description	Product No.
C-size, high-power 13-slot VXI mainframe	HP E1401B
Add manual set	HP E1401B 0B1
Module installation w/ standard address	HP E1401B 500
Front handle kit	HP E1401B 907
Flange kit	HP E1401B 908
Handle and flange kit	HP E1401B 909
Cable tray mounting kit	HP E1401B 914
Smoked acrylic door that mounts in front	HP E1401B 915
Recess mounting kit	HP E1401B 916
Support rail kit	HP E1401B 917
Backplane connector shield kit	HP E1401B 918
Japan - Japanese localization	HP E1401B ABJ
3 yr. retn. to HP to 1 yr. OnSite warr.	HP E1401B W01
RSTRD 0950-2283 POWER SUPPLY 650W	HP E1401-69202
FILLER PANEL 1 SLOT	HP E1400-60202
PANEL, 3 SLOT FILLER	HP E1400-00203
PANEL, 7 SLOT FILLER	HP E1400-00204
FRONT HANDLE KIT 12.25" SYSTEM II PLUS	HP 5062-3993
RACK MOUNT KIT SYS IIP 12.25" EARS W/O	HP 5062-3981
RACK MOUNT KIT SYS IIP 12.25" EARS &FRT	HP 5062-3987
CABLE TRAY KIT FOR SERIES C MAINFRAME	HP E1400-80004
VXI DOOR/WINDOW ASSY WITH LOCK	HP E1400-80915
RECESS RACK MOUNT KIT	HP E1401-80916
RACK MOUNT RAIL KIT FOR RECESS MOUNT	HP E1401-80917
SHIELD, BACKPLANE CONN	HP E1400-80920
Rail Kit (VXI)	HP E3665A
NONTILT HVY DUTY SLIDE FOR 20",23";175	HP 1494-0058
BRACKETS/NON-HP RACKS USED ON HVY DTY S	HP 1494-0064
HP Rack filler panel, 1 EIA unit	HP 40101A
Cable access panel, 1.75" for 19" rack	HP E1400-80002

Data Subject to Change
Copyright © January 1997
Hewlett Packard Co.
HP Publication No.: 5965-5527E