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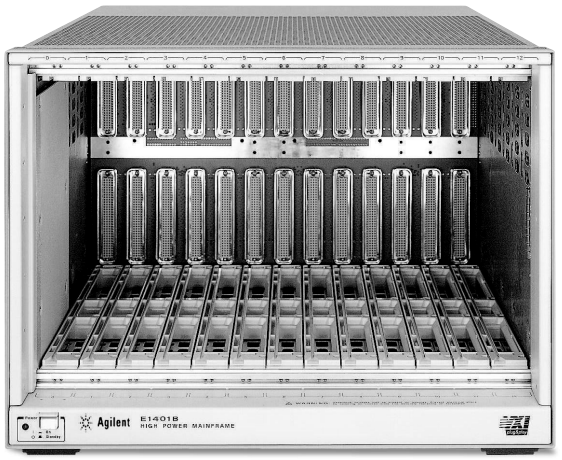
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Agilent E1401B C-Size, High-Power VXI Mainframe, 13 - Slot

Data Sheet

- 13-Slot, C-size
- High peak and dynamic currents
- Ultra-reliable power supply
- Easy to service while mounted in a test rack
- MTTR 5 minutes for power supply or fans
- Improved, uniform airflow



Agilent E1401B

Description

The E1401B is Agilent Technologies' high-power, high-performance **C-size, 13-slot VXI mainframe.** Ample dynamic and peak currents are available for the most demanding, power-hungry applications.

The Agilent E1401B is well suited for applications that require high-density instrumentation. The E1401B complies with the VXI*plug&play* Specification, and an optional rack mount kit is available for attaching VXI*plug&play*-defined interconnect fixtures. This mainframe also complies with the VXI Specification by providing injector surface rails used by the QUIC easy module insertion and extraction system. Agilent'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 Agilent backplane connector shield kit (p/n E1400-80920).

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

Agilent Technologies

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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

Product 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 buses:	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:	574	22.6
Depth with rear feet:	590	23.2
Weight:	21 kg / 46 lbs	

Allow at least 100 mm (4 in) in front of the mainframe for terminal modules and cabling.
Allow 1 rack unit (EIA) = 1.75 inches for top ventilation.

Power

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

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 made is full shutdown. Recovery occurs when standby or line is recycled.

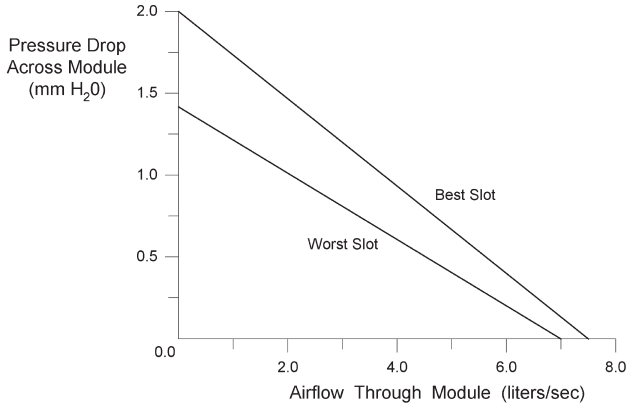
Power Input

50-60 Hz input power:	
Automatic voltage ranging, nominal range:	100-240 Vac ±10%
Nominal frequency range:	50-60 Hz ±10%
400 Hz input power:	
Nominal voltage range:	100-120 Vac ±10%
Nominal frequency:	400 Hz ±10%
dc input power:	
Input voltage range:	100 Vdc min. - 370 Vdc max.
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)

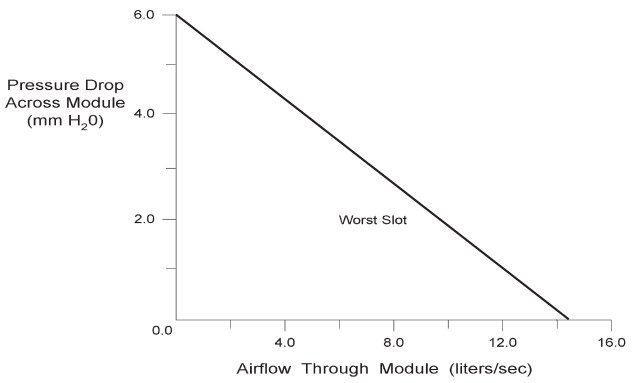
Note: Cannot be used on GFI circuit.

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Agilent E1401B Cooling Specification Charts



VXI-8 Specification Draft 2.0. Fixture revision 1.7.
- VXI-8 Standard Modules installed in all other slots.
- Performance shown for Worst Slot (slot 8) and Best Slot (slot 10).
- Front-to-Rear Variance 32% worst case.
- Fans on Full Speed.
- Measurements taken at 1,500 m altitude.



All other slots blocked. Airflow decreases as additional slots are opened.
- Performance shown for Worst Slot (slot 3). Airflow is greater in all other slots.
- Fans on Full Speed.
- Measurements taken at 1,500 m altitude.

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, Agilent E1400-80920)*
Intermodule chassis:	Intermodule chassis shields per VXI Rev. 1.4, B.7.3.4 *(available as a separate product, Agilent 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.
The Agilent E1409B C-Size Chassis Shield allows grounded shielding between mainframe slots in the E1401B and E1421B VXI Mainframes. This shield fits between slots not using up a mainframe slot.

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.

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Recess Rack-Mounting Configuration Guide

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

Recess rack mounting is preferred for VXI mainframes using modules with QUIC terminal blocks (see the Interconnect and Wiring section). 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**
Basic Recessed Rack-mount:	●	●	●	●	●	●	●	●	●	●	●	●
Smoked Acrylic Door:			●	●	●	●	●					
Rack Slides:	●	●	●					●				
Cable Tray: 44.5 mm (1.75 in.) or:		●	●	●	●			●	●	●		
88.9 mm (3.5 in.):	●	●	●	●	●			●	●	●		

You Need to Order

	A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**For re-orders use part number:**
Option 908 - Flange Kit:					●		●			●		●	5063-9218
Option 914 - Cable Tray Kit:			●	●	●			●	●	●			E1400-80004
Option 915 - Smoked Acrylic Door Kit:			●	●	●	●	●						E1400-80915
Option 916 - Recess Mount Kit:			●	●	●	●	●	●	●	●	●	●	E1401-80916
E3665AC Rail Kit (preferred for E366XX racks):				●	●	●	●		●	●	●	●	E3665AC
Option 917 - VXI Support Rail Kit:				●	●	●	●		●	●	●	●	E1401-80917
Rail Kit from Non-Agilent Rack Vendor:				●	●	●	●		●	●	●	●	Not sold by Agilent
1494-0058 - Heavy-duty Rack Slide Kit**:	●	●	●					●					1494-0058
1494-0064 - Slide Brackets **(for non-Agilent racks)**:	●	●	●					●					1494-0064
E1400-80002 - Cable Access Panel 44.5 mm (1.75 in.):			●	●	●			●	●	●			E1400-80002
E7731A - Agilent Rack Filler Panel, 1 EIA Unit:			●	●	●			●	●	●			E7731A

**Cable Tray Kit is required.

Note: Select only ONE from within the boxes with the heavy border.

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 re-orders use part number:**
Option 907 - Handle Kit:	●		●	E1400-80907
Option 914 - Cable Tray Kit:	●	●		E1400-80004

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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 (3.50 in.):	●	●	●		
Handles:	●	●		●	
Rack slides:	●				

You Need to Order

	A	B	C	D	E	For re-orders use part number:
Option 908 - Flange Kit:			●		●	5063-9218
Option 909 - Handle and Flange Kit:	●	●		●		5063-9225
Option 914 - Cable Tray Kit:	●	●	●			E1400-80004
E3665AC - Rail Kit (preferred for Agilent E366XX racks):		●	●	●	●	E3665AC
Option 917 - Support Rail Kit (for any Agilent rack):		●	●	●	●	E1401-80917
Rail Kit from Non-Agilent Rack Vendor:		●	●	●	●	Not sold by Agilent
1494-0058 - Heavy-duty Rack Slide Kit**:	●					1494-0058
1494-0064 - Slide Brackets **(for non-Agilent racks)**:	●					1494-0064
E1400-80002 - Cable Access Panel 44.5 mm (1.75 in.):	●	●	●			E1400-80002
E7731A - Agilent Rack Filler Panel, 1 EIA Unit:	●	●	●			E7731A

Note: Select ONE from within the box with the heavy border.
** Cable Tray Kit is required.

Mainframe Options and Rack-mount Configuration Examples

The following is a sample mainframe order including mainframe options from the 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

Description	Product No.
High-Power VXI Mainframe, C-Size, 13-Slot	E1401B
VXI Module Installation w/standard address	E1401B 500
Additional Service Manual	E1401B 0B1
3 yr Retn to Agilent to 1-yr OnSite Warr	E1401B W01
Spare Power Supply 650 W	E1401-69202
Backplane Connector Shield Kit	E1401B 918

Rack-mount Options

Description	Product No.
Handle and Flange Kit	E1401B 909
Cable Tray Mounting Kit	E1401B 914
Smoked Acrylic Door Kit that mounts in front	E1401B 915
Recess Mounting Kit	E1401B 916

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

Description	Product No.
Rail Kit (use w/Agilent E366XX racks)	E3665AC
Support Rail Kit [(1)]	E1401B 917
Rail kit from non-Agilent vendor	n/a

[(1)] For any Agilent rack.

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

Description	Product No.
Cable Access Panel (44.5 mm/1.75 in.)	E1400-80002
Filler Panel (one EIA unit)	E7731A

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

Description	Product No.
High-Power VXI Mainframe, C-Size, 13-Slot	E1401B
VXI Module Installation w/standard address	E1401B 500
Additional Service Manual	E1401B 0B1
3 yr Retn to Agilent to 1-yr OnSite Warr	E1401B W01
5 yrs of Customer Return Repair Service	E1401B W50
Spare Power Supply 650 W	E1401-69202
Backplane Connector Shield Kit	E1401B 918

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Rack-mount Options

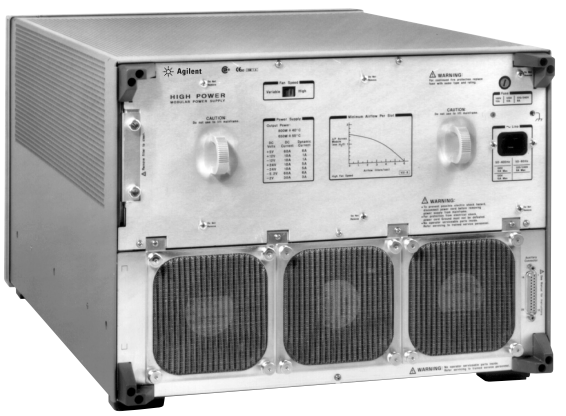
Description	Product No.
Handle and Flange Kit	E1401B 909
Cable Tray Mounting Kit	E1401B 914

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

Description	Product No.
Heavy Duty Rack Slide Kit, non-tilt	1494-0058
Slide Brackets for non-Agilent racks	1494-0064

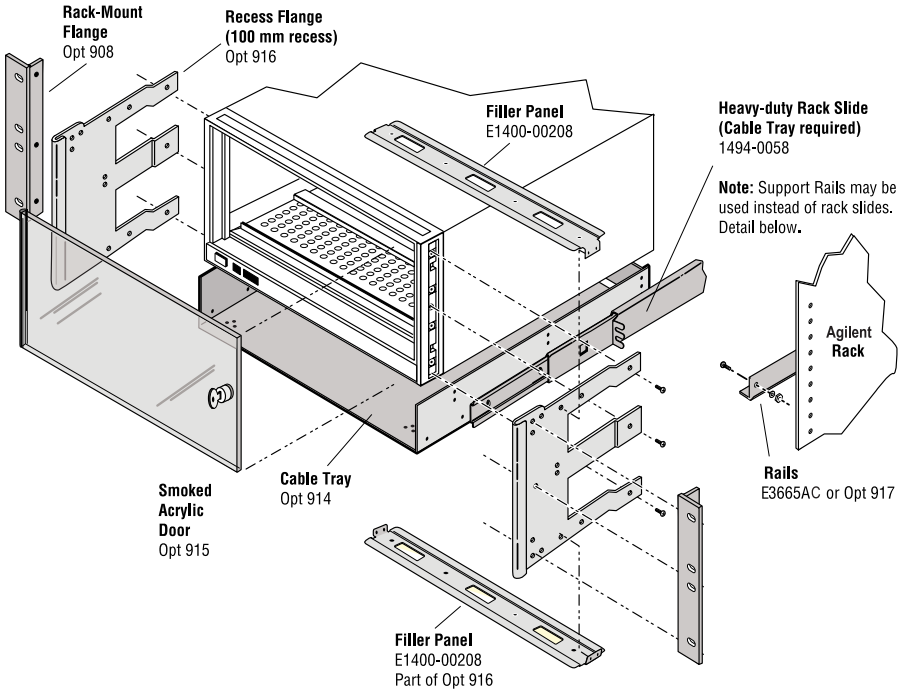
Select any of the following based on need for cable access:

Description	Product No.
Cable Access Panel (44.5 mm/1.75 in.)	E1400-80002
Filler Panel (one EIA unit)	E7731A



Recess and Flush Rack-Mounting Details

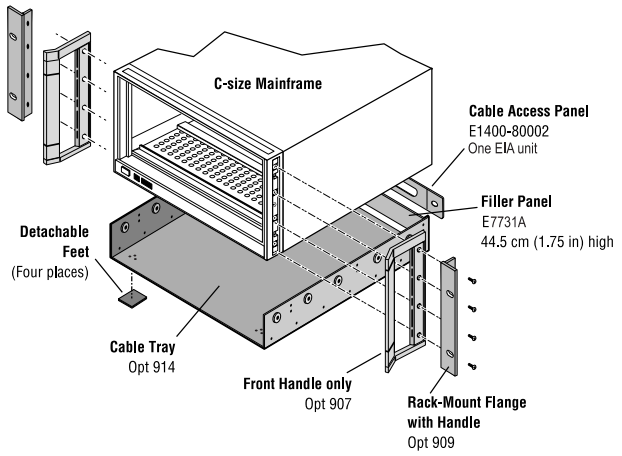
Note: Nonrecess rack-mounting is possible simply by mounting Rack Flanges directly to the mainframe. The Smoked Acrylic Door, however, may not be used except in the recess mounted mode with the Recess Mount Kit (Opt 916). The cable tray is optional.



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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.



Available Current

	At 55° C	At 40° C	
	I_{MP}, Amps	I_{MP}, Amps	I_{MD}, Amps
+5 V:	60.00	65.00	9.00
+12 V:	12.00	14.00	2.50
–12 V:	12.00	14.00	2.50
+24 V:	12.00	14.00	5.00
–24 V:	10.00	12.00	5.00
–5.2 V	60.00	65.00	8.50
–2 V:	30.0	35.00	4.50

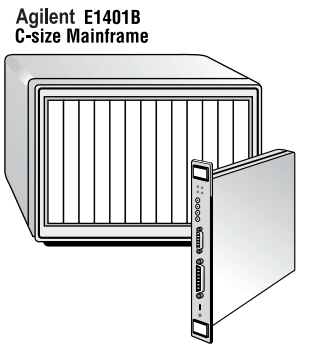
Cooling/Slot

Watts/slot:	60 W (10° C rise)
ΔP mm H_2O:	n/a
Air Flow liter/s:	n/a

Ordering Information

Description	Product No.
High-Power VXI Mainframe, C-Size, 13-Slot	E1401B
Additional Service Manual	E1401B 0B1
Front Handle Kit	E1401B 907
Flange Kit	E1401B 908
Handle and Flange Kit	E1401B 909
Cable Tray Mounting Kit	E1401B 914
Smoked Acrylic Door Kit that mounts in front	E1401B 915
Recess Mounting Kit	E1401B 916
Support Rail Kit [1]	E1401B 917
Backplane Connector Shield Kit	E1401B 918
Japanese Localization	E1401B ABJ
3 yr Retn to Agilent to 1-yr OnSite Warr	E1401B W01
5 Yrs of Customer Return Repair Service	E1401B W50
Japanese Localization (if ordered separately)	E1401-90007
Spare Power Supply 650 W	E1401-69202
Handle and Flange Kit	E1400-80909
Filler Panel 1 Slot	E1400-60202
Panel, 3 Slot Filler	E1400-00203
Panel, 7 Slot Filler	E1400-00204
Front Handle Kit	E1400-80907
Rack Mount Kit 310.4H	5063-9218
Rack Adapter Kit 310.4H	5063-9225
Cable Access Panel (44.5 mm/1.75 in.)	E1400-80002
Cable Tray Kit for E1401B	E1400-80004
VXI Door/Window Assembly w/Lock	E1400-80915
Plug&play Rack Mount Kit	E1401-61200
Recess Rack Mount Kit for E1401B	E1401-80916
Rack Mount Rail Kit for Recess Mount	E1401-80917
Backplane Connector Shield Kit	E1400-80920
Rail Kit (use w/E366XX racks)	E3665AC
Heavy Duty Rack Slide Kit, non-tilt	1494-0058
Slide Brackets for non-Agilent racks	1494-0064
Filler Panel (one EIA unit)	E7731A
Series C Chassis Shield for E1401B	E1409B

[1] For any Agilent rack.



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