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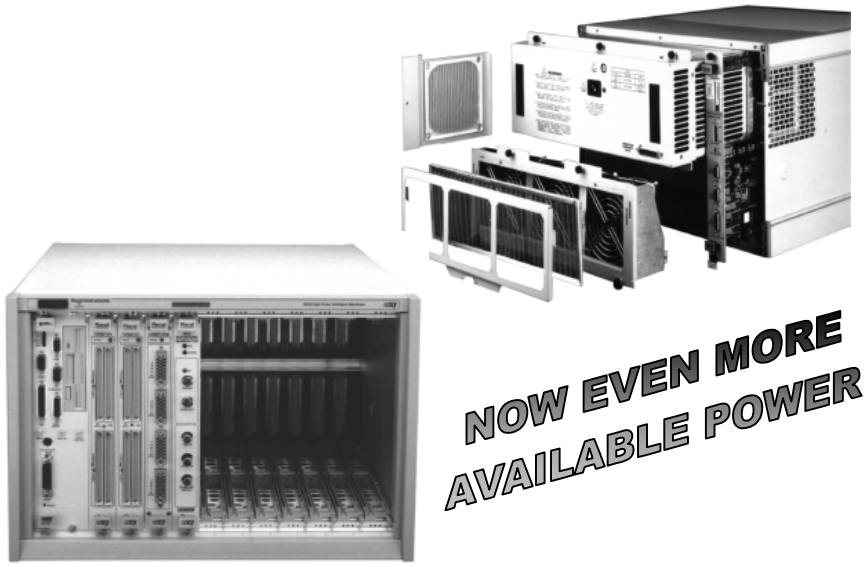
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Racal Instruments
http://www.racalinstruments.com

PRODUCT INFORMATION

High-Performance VXI Chassis Model 1261B



NOW EVEN MORE AVAILABLE POWER

- **Highest Cooling Level of any General-purpose VXI Mainframe**
- **Fault-tolerant Cooling System**
- **Two Choices of Monitoring Options**
- **Independently Pluggable Power Supply and Fan Assemblies**
- **Increased to 1756 W of Available Power**
- **1000 W of Total Useable Power @ 55°C**

Introduction

Modern test environments cannot tolerate downtime. The mainframe must keep running continuously. The 1261B takes advantage of Racal's years of experience as a leading VXI mainframe manufacturer to deliver maximum performance and reliability at a price that is competitive with low-end units.

Power

The 1261B power supply features an advanced design that delivers abundant power with a minimum of ripple and noise. The power supply plugs directly into the backplane for the best possible power delivery. High dynamic current ensures crisp waveforms and accurate measurements.

Cooling

Our fourth generation, 13-slot mainframe incorporates many unique Racal advances to deliver the most cooling and highest VXI-8 curves of any general-purpose VXI mainframe. This ensures the lowest temperature rise in your VXI modules for the most reliable system operation possible. The mainframe features a pressurized plenum system for even airflow distribution from front to back and side to side. Unique, molded, Racal cardguides direct airflow through installed modules rather than between them. Snap-on covers divert airflow away from unused slots.

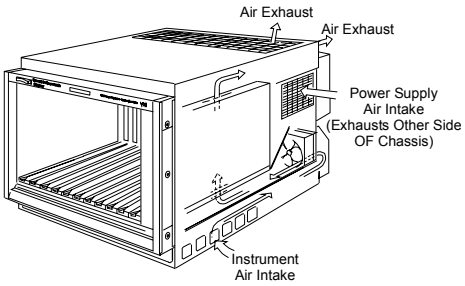
The 1261B features a fault-tolerant cooling system using a rear pluggable assembly with three fans. If a fan failure should occur, the two remaining fans still deliver a high level of cooling, preserving your VXI module investment.

Basic 1261B units include a hi/lo cooling switch to minimize audible noise during system development and maximize the reliability of fielded systems. Units equipped with a system monitor feature a variable speed cooling system that adjusts fan speed based upon the worst slot temperature rise. This ensures ample cooling while minimizing audible noise. A rear switch permits maximum cooling to be selected, if desired, to achieve maximum reliability of fielded systems.

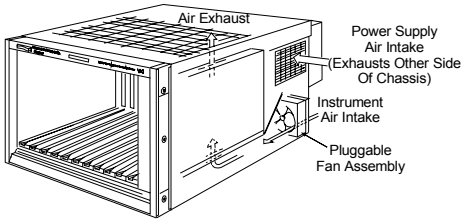
7U and 9U Versions

The 1261B mainframes are available in two sizes, 7U and 9U. The 9U mainframes are ideal for rackmount applications. They draw in air from the sides of the mainframe and exhaust out the rear to minimize rack "chimney effects". They also include a 2.25" deep cable tray. The 7U mainframes are ideal for benchtop and space-limited applications. They draw in air from the rear of the mainframe and exhaust out the top.

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1261B Rack Mount Model--Airflow



1261B Benchtop--Airflow

Base Unit

All 1261B chassis include full power protection features such as overvoltage and overcurrent protection. All 1261B's include a quick-check diagnostic connector to verify performance of power supply voltages, currents and specific VXI signals.

Optional Standard Monitor System (SMS)

The SMS automatically checks that all mainframe parameters including *VXIbus* voltages, currents, airflow, and temperature rise are within factory limits at all times. Bi-color LED annunciators on the front of the mainframe show system status and will indicate a problem if parameters are out of limits. This contrasts with low-end mainframe monitors that merely check for voltage presence. The SMS is powered by its own independent power rail and does not consume any VXI slots.

Optional Enhanced Monitor System (EMS)

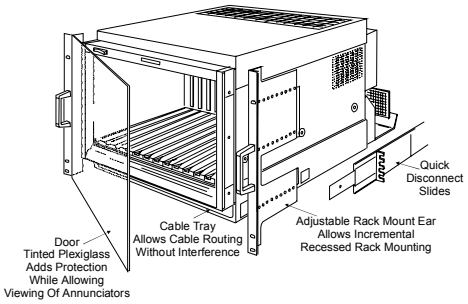
The EMS monitor includes the same great monitoring features of the SMS, and adds interactivity over the *VXIbus* and an RS-232 port. Users can set their own custom limits, maintenance intervals, and more. The EMS can even generate an interrupt upon detection of any out-of-limit condition.

The EMS also adds an advanced triggering circuit that enables synchronization of the VXI triggers with an external connector. A programmable delay circuit facilitates handshaking with external instrumentation.

The EMS is powered by its own independent power supply rail and does not consume any VXI slots. *Plug&play* drivers are provided along with a Soft Front Panel to provide operator interaction.

Versatile Accessory Options

A wide range of standard mounting options and accessories are available, including rackmount slides and ears, plexiglass and metal doors, and extended cable trays. Ear kits permit the chassis to be recessed up to $5^{3}/_{8}$ in. into the rack to accommodate cable loops.



1261B Rack Mount Model

Quality

All 1261B mainframes are designed and built with ISO-9001 certified quality at Racal's facility in Irvine, California, USA. Racal stands behind the mainframe with a full three-year warranty.

1261B SPECIFICATIONS

ELECTRICAL PERFORMANCE

Available Current

Voltage	Peak Current I_{MP} (Amps)	Dynamic Current I_{MD}
+5 V	80 A	15 A
+12 V	17 A	3 A
-12 V	17 A	3 A
+24 V	12 A	6.5 A
-24 V	12 A	6.5 A
-5.2 V	60 A	9 A
-2 V	30 A	4.5 A

Power

Temperature range: 0-55°C
Available power:
(90 VAC-250 VAC) 1756 W
Usable power:
(90 ACV-250 VAC) 1000 W

Power Input

Input Voltage: 90-250 VAC
Input Frequency:
47 Hz to 63 Hz @ 230 VAC
47 Hz to 440 Hz @ 120 VAC
Inrush Current: 70 A maximum
Input Current: 15 A @ 90 VAC
8 A @ 207 VAC

Power Switch

Front Panel Power On/Standby
Remote Switch Enable

Power Supply Protection

All voltage rails are protected from over-voltage, under-voltage, over-current, under-current, over-temperature, short to ground and short between the rails.

Fan Speed Modes

Basic Unit
HI/LO switch sets preference for maximum audible noise.
SMS/EMS Units
Switch sets preference for maximum cooling or variable speed cooling.
Variable mode automatically minimizes audible noise while making sure that the temperature rise of each slot is within limits.
HI/LO jumper clip can be used to set preference for higher cooling or lower noise.

Diagnostic Connector

All 7 VXI rail voltages
All 7 VXI rail currents
ACFAIL*
R INHIBIT*
SYSRESET*
+5 VDC Standby Input

Backplane Specification

- Solid-state with auto-configuring (jumperless) BUS GRANT* and IACK* signals.
- Full differential distribution of VXIbus CLK10.
- ACFAIL*and SYSRESET* in full compliance with VMEbus and VXIbus 2.0 specification
- Designed for maximum reliability

Standard Monitoring (SMS)

Status Readout-- Front Panel

LED bi-color (red-green) annunciators for Voltage, Current, Temperature, and Airflow

Voltage and Current Monitoring

On each VXI supply
Analog Current Monitor Output: 5 V Full Scale

Peak Slot Temperature Rise

Analog Output: 0.1 V/ °C

Peak Slot Temperature

Analog Output: 0.1 V/ °C

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Over Temperature Indication
20°C Temp. Rise per slot
70°C Ambient Temp.

Fan Speed Tachometer Outputs
Pulse Train, 2 TTL pulses/revolution (each fan)

Auxiliary DC Outputs (fused, self healing)
+5 V @ 1 A
+12 V @ 1 A
+24 V @ 1 A
+5 V Standby Input
Rear panel inputs (2 A max)

Max/Variable Fan Speed Control
Switch on Rear of SMS

Enhanced Monitoring System (EMS)

Software Drivers
Native Language: SCPI
Drivers: LabVIEW, LabWindows CVI, VXI*plug&play*

System Status Readout
VXI Voltages (7)
VXI Currents (7)
Fan Speed (3)
Temp Sensors (Ambient & per slot)
Available at front panel display, VXI message-based interface, or RS-232 interface

Over Temperature Indication
User selectable with defaults of :
Absolute Slot Temp. at 55°C
Rise Temp. of each slot at 30°C
Ambient Temp. at 55°C

VXIbus Event Monitoring
BERR*
Interrupt Ack Cycle
Power on time: Cumulative and since last power cycle

TTL Trigger Capability
Route backplane TTLTRIG lines to/from rear panel input/output
TTL Trigger Routing Delay
50 ns max

Programmable TTL Trigger Delay
0 ns to 1 sec., synchronization error 31.25 ns max

Trigger Delay Resolution
31.25 ns

Service Requirement Monitoring
Filter Cleaning, Fan Speed

VXIbus Signal Status Monitoring
(Alarms or notification capability for all monitor functions.)
AS*, SYSFAIL*, ACFAIL*

Front Panel User Message
80 Characters, Scrolled, Programmable

Auxiliary DC Outputs
(fused, self healing)
+5 V @ 1 A
+12 V @ 1 A
+24 V @ 1A
+5 V Standby Input
Rear panel inputs (2 A max)

Max/Variable Fan Speed Control
Switch on Rear of EMS

Mechanical

7U Mainframe

height	12.22”	(31.0 cm)
width	17.38”	(44.1 cm)
depth	23.68”	(60.1 cm)
weight	45 lbs.	

9U Mainframe

height	15.72”	(39.9 cm)
width	17.38”	(44.1 cm)
	or 19” with flanges	
depth	23.68”	(60.1 cm)
weight	52 lbs.	

Environmental data

Audible Noise
Basic Unit
LO: 56 dBA
HI: 62 dBA
SMS/EMS Units
Specified using MAX cooling setting. Variable will reduce operational noise.
LO: 52 dBA Maximum
HI: 62 dBA Maximum

Temperature
MIL-T-28800, Type III, Class 5, Style F
Operating: 0°C to +55°C
Storage: -40°C to +71°C

Relative Humidity
Operating range: Up to 95% at up to 30° rise and up to 45% at up to 55°C
Non Operating: Up to 95% at up to 55°C

Altitude
Operating: 15,000 ft. (4570 m)
Non-operating: 40,000 ft. (12,190 m)

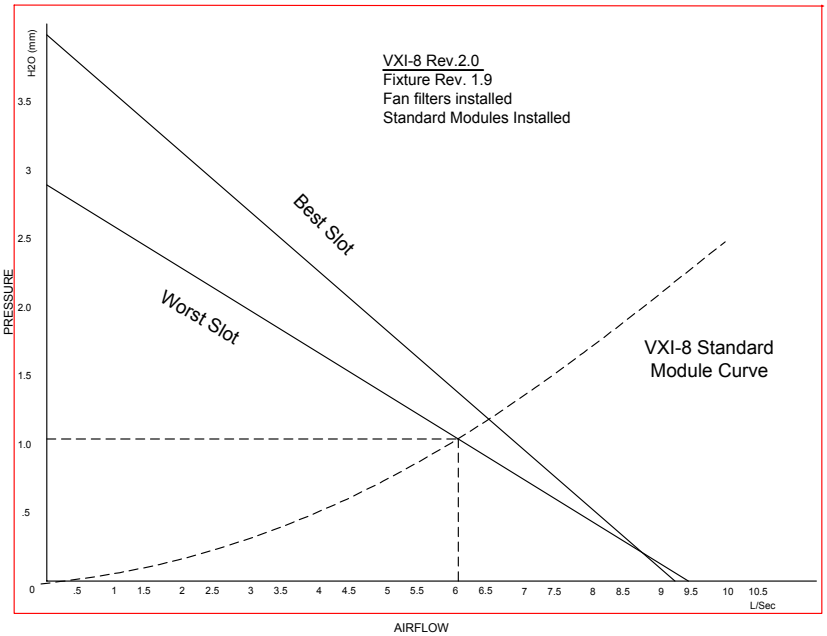
EMC Compliance
FCC 47 CFR, Part 15
EN50081-1, EN50082-1
Radiated Emissions per EN5011 Class B or CISPR 11B

Standards Compliance
100% compliant to the VXIbus specification Rev. 2.0
Software Protocols supported by VXI and RS-232 interfaces
Command set compatible with IEEE-488.2 Instrument Protocol (I4) and SCPI 1995.0

Safety Compliance
UL 3111-1, IEC1010-1, CSA 22.2 No. 1010.1
CE Marked
Power Supply tested per TUV

MTTR
The following components can be replaced in less than 5 minutes from the rear of the rack:
Power Supply Assembly
Fan Assembly
Airflow Filters
SMS or EMS Monitor

VXI-8 Cooling Charts



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Detailed Description of 1261B Chassis Options

Fusing Options

Option 71, 230 V fusing ensures adequate protection when operating at line voltages above 125 VAC.

Rack Mount Options for 7U Chassis

Option 04, rack mount flange kit (rack ears) for the 7U mainframe, permits the chassis to be recessed at multiple intervals up to $5^3/_8$in. It requires a shelf or “L” brackets in the rack to support the chassis weight in rack-mounted applications.

Option 06 includes quick disconnect slides.

Option 02 includes Option 04 rack ears and Option 06, quick disconnect slides, and a hinged tinted acrylic door.

Option 01 includes Option 04 rack ears, Option 06 quick disconnect slides.

Option 03 includes Option 04 rack ears, plus a hinged tinted acrylic door. This option requires a shelf or “L” brackets in the rack to support the chassis weight.

Option 54-1 includes ears for use in racks with a depth of less than 24 in. The chassis can be extended out the front of the rack at standard intervals.

Rack Mount Options for 9U Chassis

Option 14, rack mount flange kits (rack ears) for the 9 U mainframe, permits the chassis to be recessed at multiple intervals up to $5^3/_8$”. It requires a shelf or ”L” brackets in the rack to support the chassis weight in rack mounted applications. VPP-8 compliant ears include mounting holes for easy integration of VXI*plug&play* compliant test receivers.

Option 16 includes quick disconnect slides.

Option 12 includes Option 14 rack ears plus Option 16, quick disconnect slides, and a hinged tinted acrylic door.

Option 11 includes Option 14 rack ears, Option 16 quick disconnect slides.

Option 13 includes Option 14 rack ears, plus a hinged tinted acrylic door. This option requires shelf or “L” brackets in the rack to support chassis weight.

Option 54-2 includes ears for use in racks with a depth of less than 24 in. The chassis can be extended out the front of the rack at standard intervals.

Cable Trays Option for 9U Chassis

The 1261B-9U mainframe comes standard with an integrated 2.25” high cable tray.

Option 21 increases the height of the cable tray by 1U. With this option installed, the chassis is 10U tall. The tray size is 3.9” high.

Option 22 increases the height of the cable tray by 2U. With this option installed, the chassis is 11U tall. The tray size is 5.6” high.

Metal Doors for 9U Chassis

These options are ideal for mounting connectors, keyboards, displays, etc. on the front of a VXI chassis.

Option 23, Application Specific Front Panel (ASFP), is made from 1/8” aluminum panel. The front panel is hinged on the left side of the mainframe. Option 14 rack-mount ears must also be ordered to accommodate option 23.

Option 24, Application Specific Front Panel (ASFP), is made from 1/8” aluminum panel. The front panel is hinged on the bottom of the mainframe. A special ear kit is included with Option 24.

Shields and Shrouds

Option 51, backplane connector shrouds minimize radiated noise from the backplane. These are not necessary for most VXI modules and will only be effective if the modules include grounding fingers. It is compliant with VXI specification B.7.2.3.

Option 52, intermodule shield, includes an aluminum panel with ground connection. These shields can be uses to reduce radiated noise between adjacent VXI modules for demanding applications.

ORDERING INFORMATION		
Model	**7U Size Chassis**	**Part Number**
1261B 7U	Bench Top, High-performance VXI Mainframe 7U	407374-01120
1261B 7U	Bench Top, High-performance VXI Mainframe 7U w/SMS	407374-01111
1261B 7U	Bench Top, High-performance VXI Mainframe 7U w/EMS	407374-01112
	9U Size Chassis	
1261B 9U	High-performance VXI Mainframe 9U, with Cable Tray	407374-01220
1261B 9U	High-performance VXI Mainframe 9U w/SMS, with Cable Tray	407374-01211
1261B 9U	High-performance VXI Mainframe 9U w/EMS, with Cable Tray	407374-01212
Options for 7U Chassis		
Option 01	7U Rack Mount Flange Ears & w/Slides	407389
Option 02	7U Rack Mount Flange Ears w/Slides and Door	407390
Option 03	7U Rack Mount Flange Ears w/Door	407391
Option 04	7U Rack Mount Flange Ears	407392
Option 06	7U 24-inch Slides Only	407690-001
Option 54-1	ITA Receiver Mount, Front Extension for 7U Chassis	407431
Options for 9U Chassis		
Option 11	9U Rack Mount Flange Ears & w/Slides	407393
Option 12	9U Rack Mount Flange Ears w/Slides & Door	407394
Option 13	9U Rack Flange Ears Mount w/Door	407395
Option 14	9U Rack Mount Flange Ears	407396
Option 14B	9U Rack Mount Flange (Ears) for ARINC-608	407396-002
Option 16	9U 24-inch Slides Only	407690
Option 21-9U	2U Cable Tray (adds 1U to existing tray)	OPT -407397
Option 22-9U	3U Cable Tray (adds 2U to existing tray)	OPT -407398
Option 23-9U	Application Specific Front Panel 9U (Requires Option 11 or 14)	407399
Option 24-9U	Hinge Down Application Specific Front Panel (includes ears)	407689
Option 54-2	ITA Receiver Mount, Front Extension for 9U Chassis	407421
Options for 7U and 9U Chassis		
Option 41	SMS to EMS Retrofit Kit	407400
Option 51	Backplane w/Connector Grounding Shrouds	OPT-407418
Option 52	Inter-module Shield (Quantity 12)	407419
Option 52-1	Inter-module Shield (Quantity 1)	456506
Option 71	230 Volt Fusing	OPT-407401
1261B Power Supply	Spare 1261B Power Supply Module	407377-910
1261B Fan Module	Spare Fan Module (SMS & EMS)	407375
1261B Fan Module	Spare Fan Module Assembly (no monitoring units)	407375-001
456271	Additional Airflow Blockers (6 ea. in ship kit)	456271
404836	Blanking Plates for all VXI Chassis 1 slot	404836
980766	Additional 1261B User Manual	980766
980795	1261B Maintenance Manual	980795
405094	Spare EMS Module	405094

CE The CE Mark indicates that the product has completed and passed rigorous testing in the area of RF Emissions, Immunity to Electromagnetic Disturbances and complies with European electrical safety standards.

The Racal policy is one of continuous development; consequently, the equipment may vary in detail from the description and specification in this publication.

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