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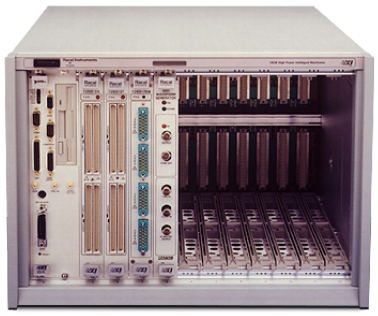
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Racal Instruments™ 1261B

High-Performance VXI Chassis

Modern test environments cannot tolerate downtime. The mainframe must keep running continuously. The 1261B takes advantage of our 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.

Key Features

- **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**
- **Monitoring option is independently powered and needs no VXI slots**

Product Information

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 technological 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 card guides direct airflow through installed modules rather than between them. Snap-on covers divert airflow away from unused slots.

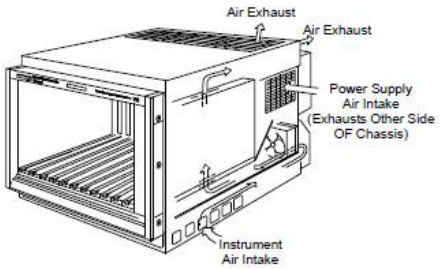
The 1261B features a fault-tolerant cooling system using a rear-pluggable assembly with three fans. If a fan failure should occur, the two remaining fans still deliver a high level of cooling, preserving your VXI module investment.

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 rack-mount 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.



Base Unit

All 1261B chassis include full power protection features, such as over-voltage and under-current protection. All 1261B chassis 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

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Product Information
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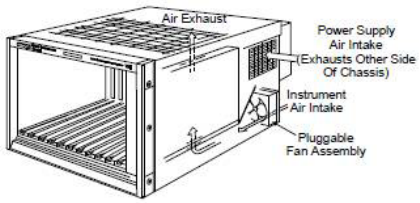
voltage presence. The SMS is powered by its own independent power rail and does not consume any VXI slots.

Optional Enhanced Monitor System (EMS)

The EMS monitor includes the same great monitoring features of the SMS and adds interactivity over the VXIbus and 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 for the VXI trigger 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 and play drivers are provided along with a Soft Front Panel to enable operator interaction.

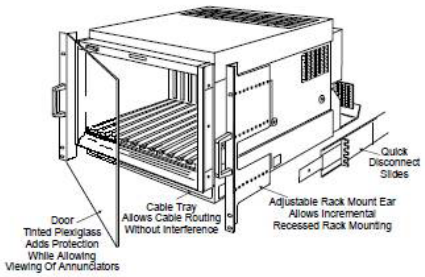


Versatile Accessory Options

A wide range of standard mounting options and accessories are available, including rack-mount slides and ears, Plexiglas and metal doors, and extended cable trays. Ear kits permit the chassis to be recessed up to 5 3/8" into the rack to accommodate cable loops.

Quality

All 1261B mainframes are designed and built to ISO 9001 and AS9100 certified quality processes. Workmanship meets IPC-A-610 requirements.



Specifications

Note: The Astronics Test Systems policy is one of continuous development and improvement. Consequently, the equipment may vary in detail from the description and specifications in this publication.

Electrical Performance

Available Current

Voltage	I_{MP} (Amps)	I_{MD} (Amps)
+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

- Usable power available to slots 0 to 12 at 230 VAC:
  925 W (0 to 40° C)
  1025 W (0 to 30° C)

Power Input

- Input Voltage: 90 to 250 VAC
- Input Frequency:
  45 Hz to 66 Hz @ 230 VAC
  45 Hz to 440 Hz @ 120 VAC
- Inrush Current: 70 A max
- Input Current:
  15 A @ 90 VAC
  8 A @ 207 VAC

Power Switch

- Front Panel Power On/StandbyRemote 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

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

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

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Specifications
continued

Enhanced Monitoring System (EMS)

Software Drivers
- Native Language: SCPI
- Drivers: LabVIEW™, LabWindows™/CVI, VXI*plug&play* support for frameworks based on Microsoft Win32® application programming interface

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

Environmental

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
  0° C to +40° C (UL)
- 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)

Random Vibration (3 axis, 10 min each)
- Operating: 0.27 G_{RMS} total, 5 to 500 Hz
- Non-operating: 2.28 G_{RMS} total, 5 to 500 Hz

Shock (Half sine, 30 g, 11 ms duration)
- Meets functional shock requirements of MIL-T-28800E, Type III, Class 5 (Operating and Non-Operating)

User Bench Handling (Operating)
- Each edge lifted four inches and allowed to free fall onto a solid wooden bench surface.

EMC
- FCC 47 CFR, Part 15
- EN50081-1, EN50082-1
- Radiated and Conducted Emissions per EN55011 and EN55022 Class B

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(14) and SCPI 1995.0

Safety
- UL 3111-1, IEC1010-1, CSA 22.2 No. 1010.1
- 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

Mechanical

7U Mainframe

Dimensions
- 12.22” H x 17.38” W x 23.68” D (31.0 cm x 44.1 cm x 60.1 cm)

Weight
- 45 lbs (20.4 kg)

9U Mainframe

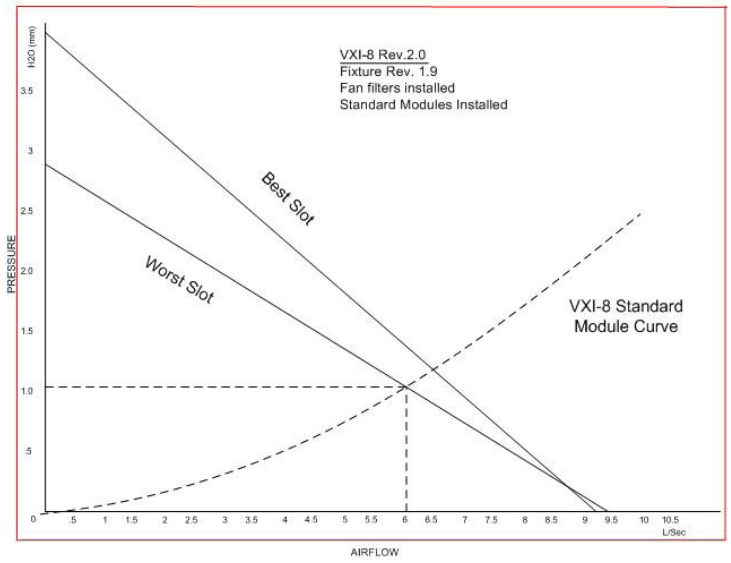
Dimensions
- 15.72” H x 17.38” W (19” with flanges) x 23.68” D (39.9 cm x 44.1 cm x 60.1 cm)

Weight
- 52 lbs

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

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Specifications
continued



VXI-8 Cooling Charts

Configuration 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". 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". The chassis can be extended out of the front of the rack at standard intervals.

Rack-Mount Options For 9U Chassis

- Option 14, rack-mount flange kits (rack ears) for the 9U 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, plus 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". 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

- The 1261B is fitted as standard with contact springs on the front right panel to ensure ground contact to the module housing in slot 13. The front left panel is coated with a conductive material to ensure good contact with the contact springs on the system slot 0 controller.
- For additional EMC shielding the following options are available:
- 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 used to reduce radiated noise between adjacent VXI modules for demanding applications.

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Ordering Information

7U Size Chassis

407374-01120 : Racal Instruments™ 1261B
7U Bench Top, High-performance VXIbus Mainframe

407374-01111 : Racal Instruments™ 1261B
7U Bench Top, High-performance VXIbus Mainframe with SMS

407374-01112 : Racal Instruments™ 1261B
7U Bench Top, High-performance VXIbus Mainframe with EMS

9U Size Chassis

407374-01220 : Racal Instruments™ 1261B
9U Rackmount, High-performance VXIbus Mainframe

407374-01211 : Racal Instruments™ 1261B
9U Rackmount, High-performance VXIbus Mainframe with SMS

407374-01212 : Racal Instruments™ 1261B
9U Rackmount, High-performance VXIbus Mainframe with EMS

Options for 7U Chassis

407389 : Option 01; 7U Rackmount Flange (ears) with Slides only

407390 : Option 02; 7U Rackmount Flange (ears) with Slides and Acrylic Door

407391 : Option 03; 7U Rackmount Flange (ears) with Acrylic Door only

407392 : Option 04; 7U Rackmount Flange (ears) only

407431 : Option 54-1; 7U Chassis ITA Receiver Extension—adds additional space between module and ITA

707690-001 : Option 06; 7U 24-inch Slides Only

OPT-407518-001 : Option 721; add 1U to Cable Tray for a total size of 8U—must be ordered with chassis

Options for 9U Chassis

407393 : Option 11; 9U Rackmount Flange (ears) with Slides only

407394 : Option 12; 9U Rackmount Flange (ears) with Slides and Acrylic Door

407395 : Option 13; 9U Rackmount Flange (ears) with Acrylic Door only

407396 : Option 14; 9U Rackmount Flange (ears) only

407399 : Option 23; 9U Chassis only, Aluminum Application Specific Front Panel (ASFP), requires Option 11 or 14, special packaging required

407421 : Option 54-2; 9U Chassis ITA Receiver Extension—adds additional space between module and ITA

407690 : Option 16; 9U 24-inch Slides Only

OPT-407397 : Option 21; add 1U to Cable Tray for a total size of 10U (total cable tray interior = 3.9”)

OPT-407398 : Option 22; add 2U to Cable Tray for a total size of 11U (total cable tray interior = 5.6”)

Options for 7U and 9U Chassis

404836 : Blanking Plates for all VXI Chassis (1 slot)

405094 : Spare EMS Module

407375 : Spare Fan Module (for units with SMS & EMS)

407375-001 : Spare Fan Module (no non-SMS/EMS units)

407377-910 : Spare Power Supply Module

407419 : Option 52; Inter-module Shield (Quantity 12)

456271 : Additional Airflow Blockers (6 ea in ship kit)

456506 : Option 52-1; Inter-module Shield (Quantity 1)

OPT-407401 : Option 71; 230 V Fusing

OPT-407418 : Option 51; Backplane Connector Shrouds

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