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## TYPICAL APPLICATIONS

Data acquisition and control systems

Automatic test equipment (ATE)

Product development and debugging (V194 or V195 development option)

Applications requiring a VXI mainframe

Mobile applications (V194)

## V194, V195 13-Slot, C-Size, VXIbus Mainframes



DC and AC mainframes with unsurpassed features

## FEATURES

- The V194 operates from a dc power source for mobile applications and supports a wide dc voltage input range (19 to 36 V dc)
- The V195 operates from an ac power source for most applications and supports input voltage ranges from 103.5 to 126.5 V and 207 to 253 V ac at 50 - 60 Hz
- Sturdy, reliable construction
- 1000 W power supply
- Superior cooling
- High performance jumperless backplane
- Quick-disconnect power supply and fan unit design
- Unsurpassed user convenience
- Accepts Virginia Panel Receiver Adapter

## GENERAL DESCRIPTION

The V194 and V195 are 13-slot, C-size, VXIbus mainframes with the performance and flexibility to accommodate a wide variety of systems. They were designed to be the most user-friendly mainframes in the industry. Each of these chassis combines a modular power supply, high-performance backplane, and efficient cooling in a reliable, maintainable system. For maximum flexibility, a number of configuration options are available for both rack mounting and stand-alone use. They feature rugged construction for high reliability and comply with the rigorous standards established for full-size, VXIbus mainframes by the VXI Specification, Rev. 1.4. The V194 is dc-powered for mobile applications, while the V195 is ac-powered for fixed applications.

## HIGH POWER

Each of these mainframes contains a 1000 Watt power supply to easily cover the most demanding configurations. The power supply is a modular, interchangeable unit which is easy to remove in the field for maintenance or upgrade. In fact, the V194 and the V195 offer the lowest mean-time-to-replace supply units available.



## EFFECTIVE COOLING

The V194 and V195 use positive pressure cooling rather than exhaust fans which may not provide adequate cooling. Backward-curved impellers are used to provide clean, filtered air to the modules with minimum noise. These impellers force the filtered air into a pressurized plenum chamber and through a metered impedance tray which insures uniform airflow even in a partially populated mainframe. The pressurized plenum chamber and metered plate are designed to deliver cool air evenly to all slots with or without the front door installed. This quiet, effective cooling eliminates the need for variable-speed fans and protects your VXI investment by increasing system reliability.

## JUMPERLESS BACKPLANE

These mainframes use multi-layer, high-performance backplanes which meet or exceed the requirements of the VXIbus specification for C-size backplanes. They employ jumperless connectors for automatic configuration of the Bus Grant and IACK signal lines which eliminates the need to install or remove jumpers. All signals reside in a fully shielded, monolithic, stripline environment for maximum electrical performance.

## USER-FRIENDLY FEATURES

While most VXIbus mainframes are designed to be kind to the electronics, these VXIbus mainframes are also designed to be kind to the user. They use a specially designed front-entry guide to provide the easiest module insertion available. To make it even easier to change modules quickly, the V194 and V195 feature a small screwdriver compartment, complete with reversible screwdriver, so it is always easy to remove or insert a module.

These mainframes take advantage of a unique design to allow the insertion of a VME module without using extenders or removing any parts. This feature can be used only with VME modules with no connections made to the outer rows of the P2 connector. VXI uses these contacts for signals and power supplies.

Each mainframe uses a magnetic-hydraulic circuit breaker to eliminate the need for fuses. The breaker may be reset by cycling power to the mainframe once the fault condition has been remedied. Backward-curved impellers are used to provide superior cooling while minimizing ambient noise. In order to meet changing user needs, the V194 and V195 were designed for easy conversion between rack mount (support rails or rack slide mounts), desktop, cable tray, and front cable housing configurations.

## EASY MAINTENANCE

Ease of maintenance was given high priority in making these mainframes convenient to use. Washable, reusable air filters are easy to clean and guarantee that only clean, filtered air reaches the modules. They are easily removed from the rear of the rack, or from the front, if mounted on the optional rack slides.

The power supply assembly is mounted on a hinged rear panel and uses a quick disconnect design. It may be replaced in less than one minute for the lowest mean-time-to-replace (MTTR) available. The power supply is available as a field-replaceable unit. It may be easily replaced from the rear of the rack, or from the front, if rack slides are used. The fan assembly is also available as a field replaceable unit for easy maintenance and repair. The quick-disconnect design allows the fan assembly to be replaced in less than one minute—again, the lowest MTTR anywhere.

## VERSATILE OPTIONS

These mainframes are available with all the necessary hardware for a wide variety of mounting options and system configurations. A cable tray, front cable housing, rack mount ears and front handles, support rails, rack slides, and blank panels are available for flexible system configuration. For ease of system configuration, the optional cable tray provides an enclosed area below the mainframe for routing cables. Holes are provided at regular intervals to allow users to tie down the cables for permanent installation.

The optional front cable housing allows cables to be routed down the front of the mainframe behind a polycarbonate door. The enclosed environment is deep enough to fully enclose either the four inch module termination housings used by KineticSystems and others or a thin-thick Ethernet adapter with the door completely closed.

A development access panel is also available as an option to allow for easy probing and testing of VXI modules. The removable access panel allows the user to open up one side of the mainframe and gain access to the VXI module while it is still plugged directly into the backplane. This eliminates electrical problems caused by extending the module away from the backplane and insures that the module receives proper cooling.

For convenience, most major options are available in kit form or factory pre-assembled. In addition, most options are available as simple field upgrades to protect your VXI mainframe investment as your requirements change.



Item	Specification
DC Output +5V + 12V -12 V +24 V (V194) -24 V (V194) -5.2 V -2V Load/line regulation Protection	V194    V195    Ripple/Noise 60 A    60 A    50 mV 8 A    8 A    50 mV 8 A    8 A    50 mV 6.25 A    8 A    150 mV 6.25 A    8 A    150 mV 28 A    28 A    50 mV 20 A    20 A    50 mV ± 0.1 % for all line and load changes Overload, short to ground, reverse voltage, short to other outputs, thermal shutdown
V194 Input Power Input voltage range Maximum input power Input protection	19-36Vdc 1463 W 1-pole magnetic-hydraulic circuit breaker
V195 Input Power Line voltage range  Maximum input power Input protection	103.5-126.5 Vac@ 50-60 Hz 207-253 V ac @ 50-60 Hz 1430 W 2-pole magnetic-hydraulic circuit breaker, simultaneously disconnects both hot and neutral
Safety Power Supply      Power Supply Certification V194 Mainframe	Soft start for limiting inrush current British Telecom specifications for conducted EMI Input Over, Under, and Reverse voltage protection Output over-current protection on all outputs Output over-voltage protection on all outputs Output over-temperature protection on all outputs Each dc-dc converter is fused with a PC-Tron™ fast-acting fuse in the positive input terminal UL, CSA listed 80 A, single-pole magnetic-hydraulic circuit breaker Power supply lockout when fan tray is removed
Cooling Fans Airflow	Two backward-curved impellers 30 CFM per slot
Monitor Option (V194-xB21, V195-xB21) Systems monitored Power supply threshold Fan threshold Local indication  Remote indication  Alarm reset	All power supplies, both fans Alarm set if any power supply falls below 90% of nominal voltage Alarm set if fan speed out of range One green/red, bi-color, status LED per power supply (seven total) One green/red, bi-color, status LED per fan (two total) Single BNC connector indicates the status of all monitored systems. Relay contact closure signals a system fault Alarm condition is latched until cleared by pressing front-panel Alarm Reset button
Dimensions Height (including removable feet) Width Depth	14.25" (36.20 cm) 16.5" (41.91 cm) 24.75" (62.87 cm)
Weight Mainframe Shipping	67 lbs (29.48 kg) 86 lbs (38.10 kg)
Rack Mount	Standard 19" (45.26 cm) format
Environment Operating temperature Storage temperature Humidity	0°C to 40°C, full load -20°C to 85°C 20% to 90% RH (non-condensing)
MTBF	100,000 hours (calculated per MIL-HDBK-217)



## RELATED PRODUCTS

VPC Model 310 113 268 Adapter Kit for KineticSystems C-Size, VXIbus mainframe (V194 & V195)

This adapter kit allows a Virginia Panel receiver unit to be attached to the front of the mainframe for Automatic Test Equipment (ATE) applications.

## V195 ORDERING INFORMATION

MODEL	DESCRIPTION
V195-wx21	13-Slot, ac Powered, C-Size, VXIbus Mainframe
W: A = Standard mainframe B = Standard mainframe with cable tray (1U) C = Standard mainframe with cable tray (1U) and front cable housing with door D = Development mainframe (removable side panel) E = Development mainframe with cable tray (1U) F = Standard mainframe with extra deep cable tray (2U) G = Standard mainframe with extra deep cable tray (2U) and front cable housing with door H = Development mainframe with extra deep cable tray (2U)	
X: A = No monitor B = Power supply and fan monitor unit included	
V195-KB11	Single-width blank panel
V195-KB21	Double-width blank panel
V195-KB31	Triple-width blank panel
V195-KC11	Cable tray (1U) field upgrade kit
V195-KC21	Extra deep cable tray field upgrade kit (2U)
V195-KF11	Front cable housing field upgrade kit (1U)
V195-KF21	Front cable housing field upgrade kit for extra deep cable tray (2U)
V195-KR11	Support rail kit for 24" rack (includes two)
V195-KR21	Support rail kit for use with front housing and 30" rack (includes two)
V195-KS11	Rack slide kit for 24" rack (includes two)
V195-KS21	Rack slide kit (roller slides) for use with front housing and 30" to 35" rack (includes two)
V195-KP21	1000 W, ac power supply replacement kit
<i>Note: Either support rails or rack slides must be used for rack mounting.</i>	
Example: To order a standard mainframe with (1U) cable tray and front cable housing, and 30" rack slide kit: V195-CA21 quantity 1 V195-KS21 quantity 1	

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