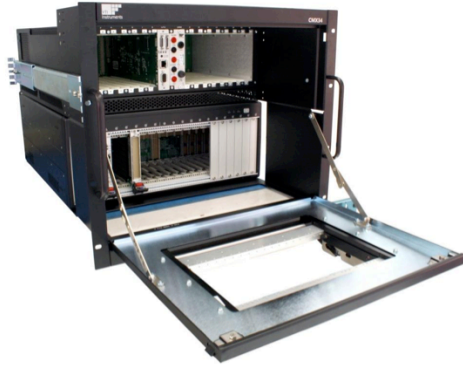


DATA SHEET



CMX34

INTEGRATED PXI EXPRESS/LXI
CORE ATE SUBSYSTEM

FEATURES

Achieve best performance with hybrid test systems that combine exceptional data throughput of PXI Express with increased board-space in an LXI mainframe optimized for signal switching and I/O

PXIe mainframe with high bandwidth PCIe Gen 2 backplane with 2 GB/s bandwidth per slot and 8 GB/s system bandwidth

EX1200 LXI mainframe for signal switching and I/O where the real estate allows instrument-grade performance

Fully integrated including cables and receiver modules, ready to drop into a test system

Subsystems engineered to maximize signal integrity and delivered fully tested and verified to guarantee results

Save time and money in documentation, sourcing, development and deployment



www.vtiinstruments.com

RELIABLE DATA FIRST TIME EVERY TIME

Leveraging Hybrid Test Systems for Best Performance

When designing a test system, one of the important factors to consider is which instrumentation platform to use. There are several industry standard platforms including VXI, PXI, PXI Express, LXI, GPIB and USB, each with its own benefits that make it useful for a particular application. No bus is perfect for all needs and applications, but by combining different platforms in a hybrid system, users can optimize the performance of their test systems to achieve best results.

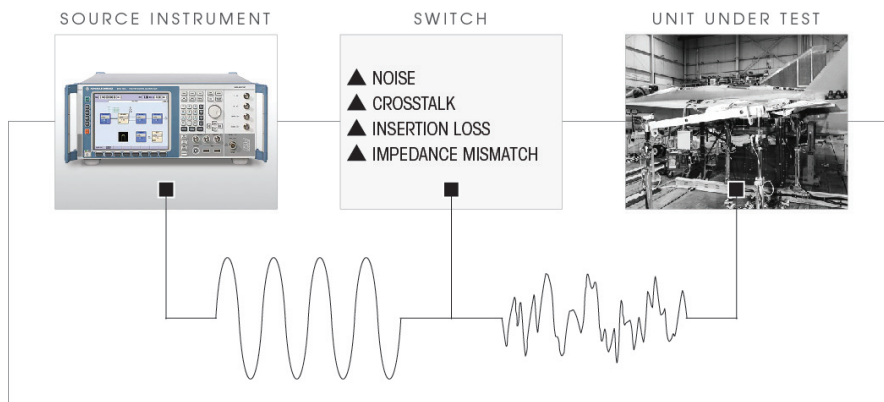
With a multi-lane switched serial infrastructure and data throughput up to 500 MB/s per lane, the PXI Express architecture is ideal for data intensive applications where high sample rates and channel counts can choke a traditional communications interface. However it is widely accepted that its small form factor is not well-suited for demanding signal switching applications where the reduction in available real-estate forces tradeoffs in density and signal integrity. The CMX34 is an integrated sub system that combines the high throughput of an 18-slot PXI Express mainframe for data intensive applications with a 16-slot LXI mainframe uniquely optimized for signal switching and I/O. The CMX34 can be combined with mass interface connectivity options to provide a fully integrated switching and instrumentation subsystem that includes cabling and receiver modules.

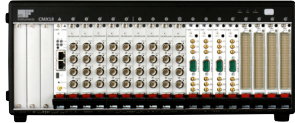

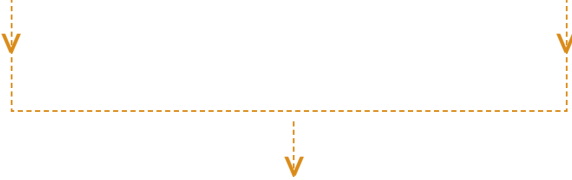

Leveraging the two platforms in a single, integrated solution, users can combine best-in-class instrumentation with best-in-class signal switching to maximize system performance.

The Importance of Signal Switching

The switch is one of the most critical parts of a test system - almost every signal in the system is routed through the switch. A poor switch can add noise, cross talk and attenuation that can distort the signal and affect the measurement accuracy.

At VTI, we view the signal switching subsystems as precision instruments and not just a collection of relays on a card. We design our switch instruments to maximize transparency to the signals that they are transmitting between the device under test and station I/O. With years of experience in designing precision switch instruments and a widespread install-base in virtually every major ATE system world-wide, VTI Instruments has proven that, when it comes to signal transparency, the performance offered by our switch cards is unmatched.



PXI EXPRESS	EX1200 LXI
	
<p>Very high bandwidth - 8 GB/s data rates possible</p> <p>Less than 1 μs latency</p> <p>Ideal for high-speed digitizers, signal generators and communication buses</p>	<p>Based on ubiquitous LAN architecture which is simple, low cost, continuously improving while maintaining backward compatibility</p> <p>Higher real estate enables density without compromising performance</p> <p>Ideal for signal switching, mainstream signal generators, DMMs and high-density precision I/O</p>
	
<p>CMX34</p> 	
<p>Combine the advantages of the two biggest instrumentation platforms in one product that addresses the limitations of each platform.</p>	
<p>PXIe mainframe for high-speed instrumentation and communications buses, where the bandwidth offered by PXIe makes it an ideal platform</p>	
<p>EX1200 LXI mainframe for signal switching and I/O where the real estate allows instrument-grade performance.</p>	
<p>Open standard, lean system-level drivers simplify software development. Extensive triggering capabilities and IEEE-1588 enable seamless synchronization.</p>	
<p>Fully integrated including cables and receiver modules, ready to drop into a test system</p>	
<p>Guaranteed long-term support leveraging products based on industry standard platforms that are designed to minimize obsolescence issues</p>	

System Overview

The 18-slot PXI Express backplane in the CMX34 consists of 1 system controller slot, 6 PXIe Peripheral slots, 10 PXIe hybrid slot and 1 PXIe timing slot. The PXIe timing slot accepts either a PXI Express module or a PXI Express system timing controller for advanced timing and synchronization. The system controller slot has configurable 4x4, 2x8 and 1x8 links, which makes it very flexible allowing all PXIe controllers to be supported per spec.

The high-density 16-slot EX1200 LXI mainframe can house up to 1536 channels of 2-wire, 300V/2A multiplexers, and has the ability to mix low-level, power, and RF switch modules in a single mainframe. Switch and I/O modules can be mixed and matched for flexibility and density in a minimal footprint. Modules are tightly synchronized to an integrated 6.5-digit DMM (optional) through an internal 5-lane analog bus. This allows accurate, high-speed scanning measurements to be made using multiplexer or matrix cards.

INTER-CHASSIS TRIGGERING AND SYNCHRONIZATION

Both the PXIe and LXI chassis include built-in capabilities that simplify synchronization and allow them to be tightly integrated with each other. The PXIe backplane is uniquely designed with a built-in mechanism for distributing an IEEE-1588 time source to the plugin modules. This mechanism allows timestamping of data from all plugin modules on a common time-base for advanced timing and synchronization. This can be synchronized to the time source on the EX1200 chassis. In addition, both chassis include extensive triggering capabilities with an LXI wired trigger bus on the EX1200 chassis and the PXI Express differential star trigger lines on the PXIe chassis. These combined allow nano-second level synchronization between the chassis.

SYSTEM MONITORING AND SIMPLIFIED MAINTENANCE

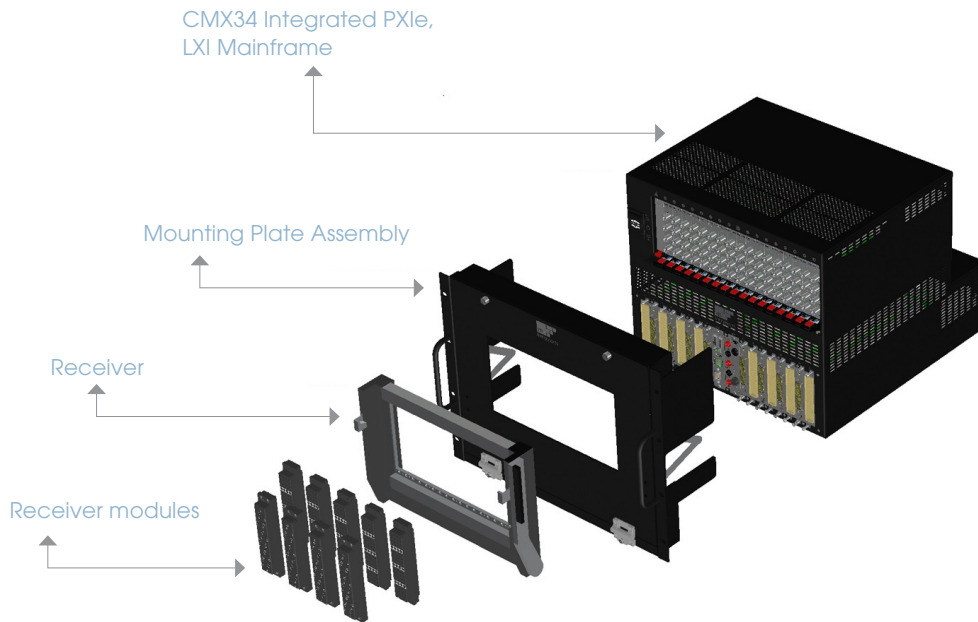
The CMX34 monitors its own internal temperature using temperature sensors placed within mainframe. An LED on the front panel notifies users of over temperature conditions. Voltage rails can be monitored using the DB-9 connector in the rear of the chassis. A remote inhibit input is also available on the connector that allows the chassis to be turned off remotely if a fault condition occurs.

In addition, the switch modules are pluggable from the front, resulting in very low MTTR. Simplified wiring to the Interface Receiver mechanism is also provided. The onboard relay monitor tracks relay actuations and stores the data in memory simplifying predictive maintenance. Embedded monitor and control panels provide immediate access to instrument functions and require no third party software beyond standard web tools creating a framework for simplified front-line maintenance.

Options and Accessories

MASS INTERFACE CONNECTOR ASSEMBLIES (ICAS)

The CMX34 can be configured with G18, 9025, or 9025TR blank receiver assemblies from Virginia Panel Corporation, as well as the Titan series from MAC Panel. A wide variety of mass interconnection options for signal, power and RF connectivity are available for these receivers. In addition, the iCON(TM) series from VPC and LIF(TM) series from MAC Panel are also supported.



PLEXIGLASS DOOR

A plexiglass door option is available with protects the instrument and cabling while allowing viewing of the instrument annunciators.



CABLE TRAY

1U and 2U cable trays are available for the CMX34.

Saving time and money, simplifying development and deployment

VTI provides a complete line of modular test subsystems that address common core ATE requirements at any level. These solutions provide a step-by-step approach to designing test systems that include instruments, switching mainframes, and controllers that are integrated with general purpose interfaces (GPI) from industry leading suppliers. A fully tested subsystem can now be purchased from one source.

MAXIMIZE PERFORMANCE

All solutions are engineered to maximize signal integrity between the system assets and the device under test.

SHORTEN TEST-SYSTEM INTEGRATION EFFORT

VTI's experienced staff of application engineers can assist in any phase of the process to reduce development time, which includes providing a subsystem to complete turn-key system quotes. Reduce integration time using pre-configured cable options which include wire-list documentation.

RELIABLE RESULTS, EVERY TIME

VTI's established manufacturing processes ensure that subsystems are fully tested and verified, guaranteeing results for customers.

LONG TERM SUPPORT FULLY DOCUMENTED ASSEMBLIES

VTI applies stringent documentation processes, configured assemblies are documented same way as products are making things repeatable and easy to maintain and service. Solidworks 3D drawings are provided too if applicable.

SIMPLIFY OPERATIONAL TASKS

Subsystems can be purchased as one part number, leveraging VTI's ISO procedures and configuration control and resulting in one source control drawing.



CMX34 WITH GEMINI G18 RECEIVER

Detailed Specifications

GENERAL SPECIFICATIONS

SLOT CONFIGURATION

18 slots PXI Express
 1 PXIe system controller slot (slot 1)
 16 PXIe peripheral slots (slots 7-9, 10-13)
 1 PXIe timing slot (slot 10)
 10 PXIe hybrid slots (slots 2-6, 14-18)

16 slots EX1200 (LXI)

6 standard plugin-module slots
 1 slot 6.5 digit DMM

BANDWIDTH

8 GB/s (PXI Express Mainframe)

ELECTRICAL SPECIFICATIONS

AC INPUT

INPUT VOLTAGE RANGE 85 to 264 VAC
 INPUT FREQUENCY RANGE 47 to 63 Hz

DC INPUT

MAX DC POWER OUTPUT 2000 W
 EFFICIENCY 91 % (typical)

ENVIRONMENTAL SPECIFICATIONS

OPERATING TEMPERATURE 0° C to 55° C
 STORAGE TEMPERATURE -20° C to 70° C
 HUMIDITY 10 to 90% non-condensing
 ALTITUDE 3,000 ft.
 FUNCTIONAL SHOCK Per 3.8.5 of MIL-PRF-28800F, Class 3

SAFETY AND EMC

SAFETY COMPLIANCE

EN 61010-1, IEC 61010-1
 UL 61010-1, CSA 61010-1
 2006/95/EC; Low-Voltage Directive (safety)

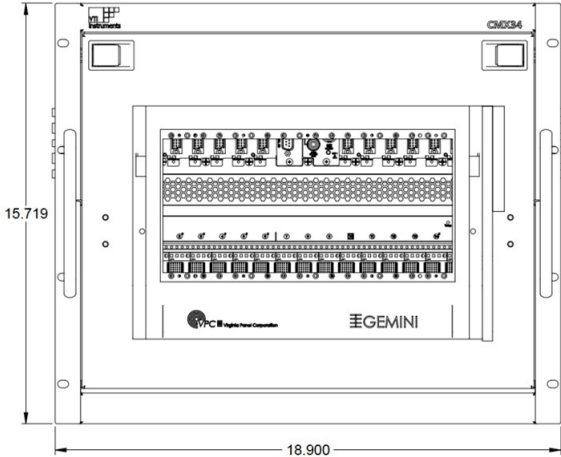
EMC COMPLIANCE

EN 61326 (IEC 61326): Class A emissions, basic immunity
 EN 55011 (CISPR 11): Group 1, Class A emissions
 AS/NZS CISPR 11: Group 1, Class A emissions
 FCC 47 CFR Part 15B: Class A emissions
 ICES-001: Class A emissions

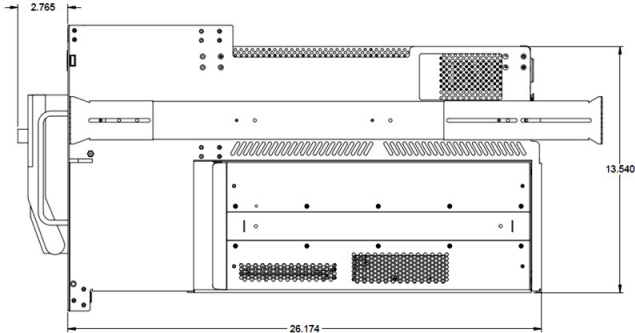
Specifications contained within this document are subject to change without notice

Detailed Specifications

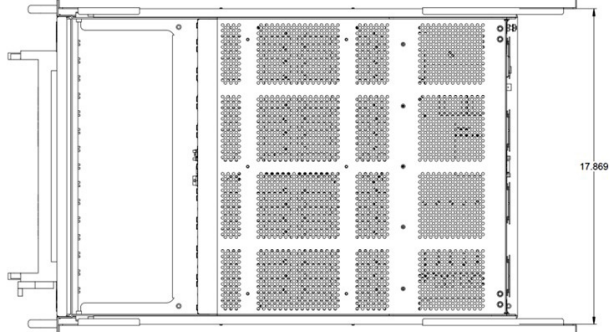
CMX34 WITH VPC GEMINI G18 RECEIVER FRONT VIEW



CMX34 WITH VPC GEMINI G18 RECEIVER SIDE VIEW



CMX34 WITH VPC GEMINI G18 RECEIVER TOP VIEW



Ordering Information

CMX34*	Integrated PXI Express/LXI Core ATE Subsystem
OPTIONS	
OPTION 101	Mounting plate assembly for G18 receiver
OPTION 102	Mounting plate assembly for G25 receiver
OPTION 103	Mounting plate assembly for TITAN 25-slot receiver
OPTION 104	Custom interface mounting assembly
OPTION 110	Plexiglass door
OPTION 115	1U cable tray
OPTION 116	2U cable tray
RELATED PRODUCTS	
70-0501-000	CMX18, 18-slot 3U PXI Express Chassis
EMX-2500	Gigabit Ethernet LXI Controller for PXI Express
EMX-2401	Intel Core i5, 2.4 GHz, PXI Express Embedded Controller
75-0046-000	EX1208A, 16-slot 3U LXI Switching and I/O mainframe
70-0462-200	EX1200-2365 6.5 digit DMM for EX1208A

* Please contact factory to create part numbers for configured assemblies.