



3150 HIGH- PERFORMANCE MOTHERBOARD

- Up to 8 different Function Cards in a single VXIbus Slot
- Large Range of Function Cards (Comp. to ProDAQ 3120)
- On-board Digital Signal Processor and Memory
- Data Transfer Rate up to 32 MB/s
- Optional second Digital Signal Processor
- Optional Calibration Reference Source

POWER

General

The ProDAQ Flexible Modular Data Acquisition System is designed to reduce the cost of developing and building Data Acquisition and ATE Systems.

ProDAQs unique, high-density, modular system concept will significantly reduce the size and cost of VXIbus based Data Acquisition and ATE Systems by offering savings in the number of VXI modules and VXI chassis needed within a system.

The ProDAQ 3150 Motherboard accepts up to eight different Function Cards in a single slot module to provide any function or combination of functions required for a specific application. If needed, a large number of single functions can be fitted within a single VXI slot. For example:

- Up to 384 Digital I/O channels
- or: Up to 192 ADC channels
- or: Up to 128 DAC channels

Alternatively up to eight different functions can be combined.

The Function Cards can be factory-fitted within the module to a user-defined configuration or can be field-fitted by the user to change, enhance or upgrade the module or system.

To improve the overall system performance, the ProDAQ 3150 offers a number of new features:

Data Transfer

The enhanced VXIbus Interface of the ProDAQ 3150 offers a data transfer rate of up to 32 MB/s, VXIbus 2.0 compatibility (e.g. D64 support) and simultaneous access of up to 4 function cards.

On-board DSP

The on-board Digital Signal Processor moves the data between the function cards and the on-board memory.

For example several data readouts can be gathered and moved over the VXIbus using fast block transfers. User-defined waveform data can be stored in the on-board memory and moved to one or more function cards to generate a specific waveform.

In addition the DSP can be used to apply calibration factors to the moved data, perform E.U. conversion, T/C linearisation, digital filtering etc. It also handles board initialization and selftest.



On-board Memory

The on-board memory is organized in two banks with separate interfaces to the internal bus and the VXIbus interface. In this way one bank can be accessed simultaneously from the VXIbus while the other bank is accessed by the on-board DSP(s), providing the full data transfer bandwidth of the memory for both transfers.

User-programmable DSP

In addition to the on-board DSP a second, fully user-programmable DSP can be fitted into the ProDAQ 3150. It has full access to all on-board resources like the function cards, the on-board memory or the trigger and interrupt system.

It offers real-time capabilities for local data processing, control loops or event handling.

The VXIbus local bus can be used to communicate between the User-programmable DSPs of two ProDAQ 3150 modules utilizing a high-speed serial link protocol.

Calibration Reference

An optional programmable Voltage Reference can be added to the ProDAQ 3150 Motherboard to provide additional selftest capabilities and allow the calibration of Function Cards "on-the-fly".

Software

The supplied software drivers are designed according to the VXI*plug&play* standard and can be used with all current popular software environments.

Max. Number of Function Cards	8
VXI Device Type	Register based: A16/A32
Max. Data Transfer Rate	8 MB/s 32-bit single-word transfer 32 MB/s 32-bit block transfer Note: The actual data transfer rate depends on the VXIbus controller used.
On-board DSP	DSP Type Analog Devices ADSP-21061 @ 40 MHz Local SRAM 256kWords FLASH 4 MByte
On-board Memory	64/128 MByte
Interrupter Capability	VXIbus IRQ1-IRQ7, software selectable
Trigger Interface	Trigger Lines VXIbus TTL0-TTL7, ECL0-ECL1 Minimum Pulse Width 100ns
Current Consumption	Voltage (V) Current (mA) +24 10 -24 10 +5 1330 -5.2 30 -2 25 Note: Motherboard only. Actual requirement depends on number and type of function card(s) fitted.
Dimensions	VXIbus Single-Slot C-Size Module
Weight	1220g
Operating Temperature	0° C to 50° C
Storage Temperature	-40° C to 70° C
Software Support	VXI <i>plug&play</i> driver for the WIN95 and WINNT frameworks
Warranty Period	12 month standard; extended periods available at additional cost.

Ordering Information

- 3150-AA High-Performance Motherboard with DSP and 64 MB RAM
- 3150-AB High-Performance Motherboard with DSP and 128 MB RAM

Related Products:

- 3201-AA Voltage Reference Card
- 3212-AA 64 MByte Memory Module
- 3220-AA DSP Plug-in Module
- 3220-AB DSP Plug-in Module

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