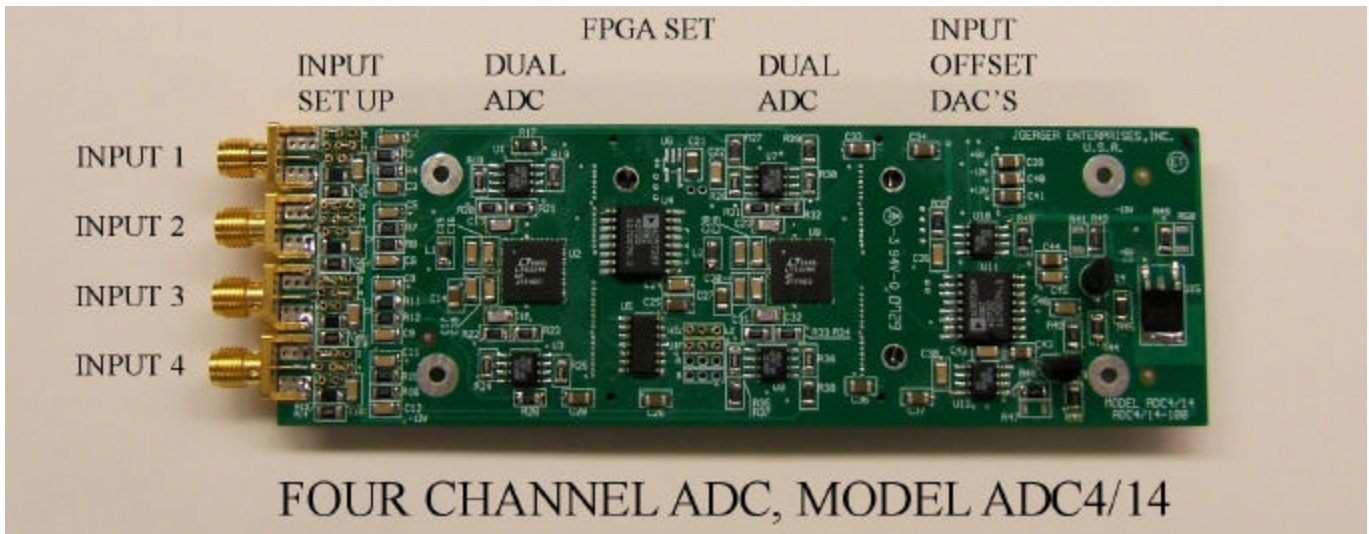


## MODEL ADC4/14

### “VME” 125Mhz, 4 CHANNEL, 14 BIT, ANALOG DIGITIZER DAUGHTER BOARD



FOUR CHANNEL ADC, MODEL ADC4/14

#### **FEATURES:**

- Four individual ADC's
- 25Mhz, 80Mhz or 125Mhz, 14 bit resolution
- Single ended or differential, jumper selectable
- Input impedance, 50, 100 or 100k ohms, jumper selectable
- Full scale programmable input offsets
- Post, multi-post, pre/post and multi-pre/post triggering available
- Programmable clock speed
- Memory operation: read or read and write
- Active memory size, bit selectable
- Post trigger size, bit selectable
- Trigger addresses are stored to facilitate read out
- Signal averaging for improved signal to noise response
- Valid data capability, minimum signal level for each channel is loaded and if exceeded a bit is set
- Triggering available from input signals, levels set and when exceeded a trigger is generated
- Daughter card type can be readout
- Front end set up, single, differential, high or low input impedance

## ***DESCRIPTION:***

The ***JOERGER ENTERPRISES, INC.*** Model ADC4/14 is a daughter card to be used with the VME-M motherboard. It provides four individual high speed, 14 bit analog digitizers. One, two, three or four of these cards can be attached to a VME-M motherboard and provide up to 16, high speed, 14bit digitizers in a single width 6U VME module. To handle various applications the module can be purchased with maximum clock speeds of 25Mhz, 80Mhz, or 125Mhz. To improve overall performance a Nyquist filter is provided between the amplifier and the ADC.

To handle a variety of input applications each digitizer can be set to accept either a single ended or differential input. The input connector's are SMA. Its input is DC coupled with an input impedance in excess of 100kohms. This is an excellent input for signal monitoring that often required an oscilloscope. For certain applications lower input impedance may be required. The input can be selected to operate into 50 ohms for single ended inputs or 100 ohm for differential inputs. Selection is done with on board jumpers. The selections chosen can be read out. The standard input range is +/- 2.5 volts and when single ended applications are selected full scale programmable input offset is provided. Four 12 bit DAC's provide independent offset for each channel. The channels offset is set to zero when reset.

The standard motherboard provides each daughter card with two, independent 256k x 32 bit SRAM memories. The motherboard's SRAM memory is capable of handling 4 independent 16-bit words with a minimum capacity of 256k words/channel. This means that the data from all 4 channels can be stored in memory. If higher speed read/write capability is required for an application one memory can be writing while the other is being readout. Then the process reversed. This is possible because each memory has its own address counter and controls. But if this mode is used then only two channels can be active. Motherboards are available with up to two, 2M x 32 bit SRAM.

Logic is provided by FPGA on the motherboard. The programming chip for the VME bus array is on the motherboard. Each daughter cards programming chip is on the daughter card. All module programming is done from a front panel JTAG connector. It controls the VME array and each daughter card. In this way each daughter card programs itself to perform the operation it requires. This allows the user to program the control array and each daughter card separately. The arrays have been chosen so that at least half the array is available for customer use. The daughter card handles the input/output signals to the module and the daughter card's array is programmed to handle the actual application. This means the analog signals are handled on the daughter card and digital information is sent or received by the motherboard. This feature offers greater isolation with regard to digital noise in analog circuitry. This feature and the greater density provided is the main reasons for this mother/daughter card arrangement. Daughter cards can serve many applications and the ability to program and reprogram them is important.

## ***SPECIFICATIONS:***

### **INPUT**

- Number of channels Four, individual
- Input, high and low impedance +/- 2.5 volts
- Type Single ended or differential, jumper selectable.
- Input impedance 100kohms, 50 or 100 ohms, jumper selectable
- DC Amplifier Bandwidth 50Mhz, .1db flatness
- Nyquist filter A 3db filter is provided to reduce aliasing
- Resolution 14 bits
- SNR 72db typical
- Programmable input offset Four 12 bit DAC's, Full Scale
- Connectors SMA

### **OPTIONS:**

Model ADC4/14- 25	Clock speed 1Mhz to 25Mhz, 14 bit resolution
Model ADC4/14- 80	Clock speed 1Mhz to 80Mhz, 14 bit resolution
Model ADC4/14- 125	Clock speed 1Mhz to 125Mhz, 14 bit resolution

**POWER REQUIREMENTS:** + 3.3V, +5V, +12V, -12V

**SIZE:** Single width daughter card

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