MODEL ADC 125/16

"VME" DUAL CHANNEL, HIGH PERFORMANCE, 125Mhz, 16 BIT ADC DAUGHTER BOARD

DESCRIPTION:

The ***JOERGER ENTERPRISES, INC.*** Model ADC 125/16 is a dual channel daughter card to be used with the VME-M motherboard. It has been designed for applications that require under-sampling of an input signal on a high-speed carrier. It is AC coupled, uses a balum transformer and a wide band amplifier with a gain of ten. This provides an input range of 150mv p-p so low-level signals can be accepted without the use of an external amplifier. The ADC features clock rates up to 125Mhz with 16 bit resolution. But to perform at this speed and resolution the ADC clock must exhibit low jitter. At these speeds the signal and clock must both perform well for accurate results. The clock on the motherboard can be either the internal crystal or an external clock. Each daughter card clock bus is laid out independently and timed to each card. While this helps performance on most daughter card applications it is not good enough for this speed and resolution. The synchronous clock signals drive a chip containing a FPGA, VCO and matched clock drivers. This provides a programmed ADC clock frequency with a typical clock jitter of 300fseconds rms. The input signal bandwidth of the balum input, amplifier and ADC front end is from 5Mhz to in excess of 140Mhz. This means the signal can be on a carrier frequency within that range. A future option will increase this bandwidth to 300Mhz. A Model VME-M1 motherboard can accept one of these daughter cards, the Model VME-M4 can accept 4 cards. This would provide 8, 125Mhz, 16-bit digitizers in a single 6U VME slot.

APPLICATIONS:

High Performance Instrumentation
Telecommunications
Receivers
Spectrum Analysis
Imaging Systems
ATE

FEATURES:

INPUT

- Range — 150mv/ 225mv, p-p, selectable
- Input Impedance — 50 ohms, AC coupled
- Total Input signal Bandwidth — 5Mhz to 140Mhz
- ADC Sampling speed — 1Mhz(min) to 125Mhz(max)
- Clock Time Jitter — 300 fs rms typical

- Resolution 16 bits
- SNR 75db
- INL +/- 1.2 LSB typical
- DNL +/- .3 LSB typical

CONNECTORS SMA

POWER REQUIREMENTS: + 3.3V. +5V

SIZE: Single width daughter card

FUTURE OPTION: Bandwidth, 5-300Mhz

work/datasheets/ADC125.doc

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