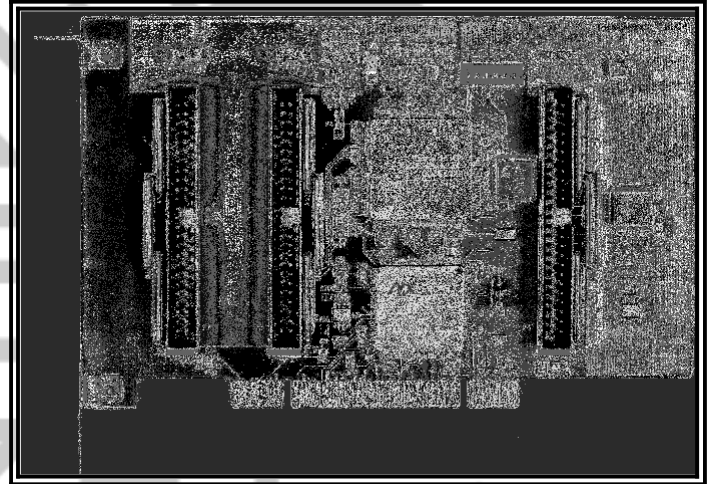# ⅃ᴍᴇꜱᴀ

- **Xilinx FPGA BASED I/O card**
- **72 I/O BITS**
- **5V tolerant I/O**
- **24 mA output drive**
- **PCI interface**
- **Many I/O functions supplied**
- **11 LED status indicators**
- **Source supplied for all functions**
- **FPGA downloaded from host**
- **Low power consumption**
- **Made in USA - local support**
- **2 year warranty**

The MESA 5I20 is a general purpose programmable I/O card for the PCI bus. The 5I20 uses a 200K gate Xilinx FPGA for all logic, so it is truly an "Anything I/O" card.

The FPGA configuration is downloadable from the PCI bus side, allowing creation of almost any kind of specialized I/O function, even including micro-controllers in the FPGA.

A PCI bridge chip is used for FPGA interfacing, so that the FPGA designs need only interface to a simple 32 bit synchronous local bus.

Several pre-made functions are provided, including a 72 bit parallel I/O card with 32 bit host interface, a 12 channel host based servo motor controller, a 4 or 8 channel micro-controller based servo motor controller (micro-controller CPU built into FPGA), and a 8 channel, 32 bit timer counter card capable of running at 100 MHz.

VHDL source is provided for all examples and custom I/O functions can be provided on a contract basis.

All I/O bits are 5V tolerant and can sink 24 mA. Pullup resistors are provided for all pins so that they may be connected directly to opto-isolators, contacts etc.

the 5I20 uses three 50 pin connectors with I/O module rack compatible pinouts and interleaved grounds.

3 FPGA configuration status LEDS plus 8 general purpose LEDs are available for circuit debugging or circuit status information.

A 50 MHz crystal oscillator is provided as the FPGA system clock. The 33 MHz PCI clock is also avaialbe to the FPGA. Higher or lower frequencies can be generated by the DLL built into the FPGA.

5I20 CONNECTOR PINOUT:

PIN#	5I20 SIGNAL (P2,P3,P4)	PIN#	5I20 SIGNAL
1	I/O 0,24,48	2	GND
3	I/O 1,25,49	4	GND
5	I/O 2,26,50	6	GND
7	I/O 3,27,51	8	GND
9	I/O 4,28,52	10	GND
11	I/O 5,29,53	12	GND
13	I/O 5,30,54	14	GND
15	I/O 7,31,55	16	GND
17	I/O 8,32,56	18	GND
19	I/O 9,33,57	20	GND
21	I/O 10,34,58	22	GND
23	I/O 11,35,59	24	GND
25	I/O 12,36,60	26	GND
27	I/O 13,37,61	28	GND
29	I/O 14,38,62	30	GND
31	I/O 15,39,63	32	GND
33	I/O 16,40,64	34	GND
35	I/O 17,41,65	36	GND
37	I/O 18,42,66	38	GND
39	I/O 19,43,67	40	GND
41	I/O 20,44,68	42	GND
43	I/O 21,45,69	44	GND
45	I/O 22,46,70	46	GND
47	I/O 23,47,71	48	GND
49	POWER	50	GND

ORDERING INFORMATION:

5I20   Anything I/O PCI 72 bit - 3X 50 pin connectors

Add -I for industrial temperature range.