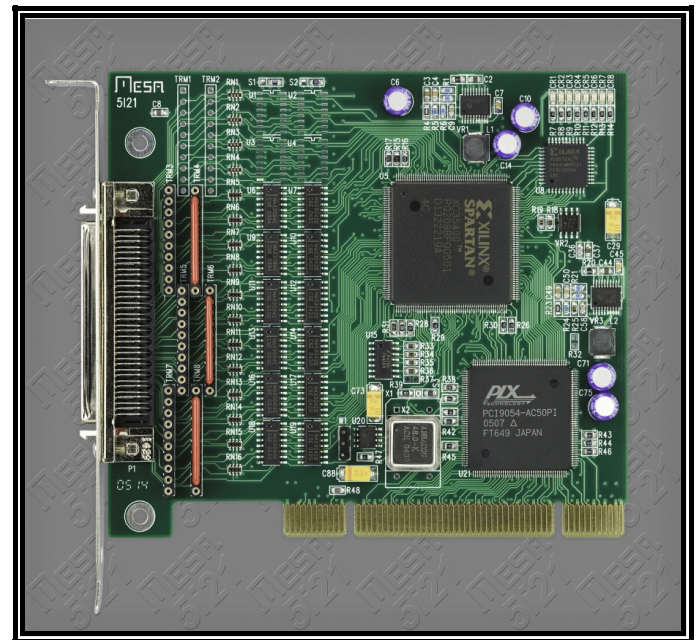# MESA

5I21 SERIAL ANYTHING I/O CARD

- **Bus mastering PCI interface**
- **RS-422 / RS-485 differential I/O**
- **400K FPGA for serial logic**
- **12 RS-422/RS-485 channels**
- **Up to 10 Mbps bit rate standard**
- **Higher bits rates available**
- **On card selectable termination**
- **Fail safe input biasing**
- **Made in USA - local support**
- **Single 5V power supply**
- **2 year warranty**

The MESA 5I21 is a programmable serial interface card for the PCI bus. The 5I21 is designed for applications using RS-422 and RS-485 interfaces. The 5I21 can support up to 12 full duplex RS-422 or half duplex RS-485 serial links with baud rates up to 10 M baud. The 5I21 uses a 400K gate Spartan3 FPGA and a bus mastering PCI bridge for high performance.

Since all serial logic is FPGA based, almost any RS-422/RS485 protocol can be supported. The I/O connector is a 68 pin high density type compatible with standard 100 ohm differential cables. On card serial line termination includes idle line pullups and pulldowns to guarantee a valid undriven input state.

The 5I21 is suitable for high performance motion control systems, Robotics, Industrial I/O, Custom real time distributed I/O, time code generation, supporting legacy hardware, and almost any high speed serial interface application that requires a flexible, high performance, universal RS422/485 serial interface card.

The 5I21 can also be supplied with 16 channels, and faster interface chips if used in RS-422 only type applications. A breakout board is available that splits the 68 pin serial I/O from the 5I21 into twelve RJ45 RS-422/ RS-485 connections.

Source code for several example configurations are supplied with the 5I21.

5I21 I/O CONNECTOR PINOUT:

PIN	FUNC	PIN	FUNC	PIN	FUNC	PIN	FUNC
1	CH0+	35	CH0-	2	CH1+	36	CH1-
3	CH2+	37	CH2-	4	CH3+	38	CH3-
5	CH4+	39	CH4-	6	CH5+	40	CH5-
7	CH6+	41	CH6-	8	CH7+	42	CH7-
9	CH8+	43	CH8-	10	CH9+	44	CH9-
11	CH10+	45	CH10-	12	CH11+	46	CH11-
13	CH12+	47	CH12-	14	CH13+	48	CH13-
15	CH14+	49	CH14-	16	CH15+	50	CH15-
17	CH16+	51	CH16-	18	CH17+	52	CH17-
19	CH18+	53	CH18-	20	CH19+	54	CH19-
21	CH20+	55	CH20-	22	CH21+	56	CH21-
23	CH22+	57	CH22-	24	CH23+	58	CH23-
25	GND	59	GND	26	GND	60	GND
27	GND	61	GND	28	GND	62	GND
29	GND	63	GND	30	GND	64	GND
31	GND	65	GND	32	GND	66	GND
33	+5V	67	GND	34	+5V	68	GND

ORDERING INFORMATION:

5I21   PCI SERIAL ANYTHING I/O CARD
5I21-16   PCI SERIAL ANYTHING I/O CARD (16 channel)

Add -I for industrial temperature range.