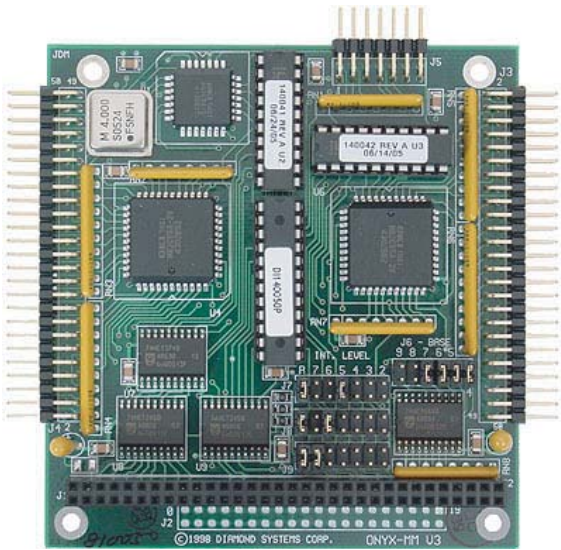


ONYX-MM

Programmable Counter/Timer, Interrupt, and Digital I/O PC/104 Module



- 48 digital I/O lines
- 3 16-bit counter/timers
- 3 PC/104 bus interrupt lines
- On-board 4MHz clock oscillator
- Programmable counter and interrupt sources
- Can generate bus interrupts at programmable intervals

DESCRIPTION

Extensive software control of features is the highlight of this digital I/O module featuring 48 digital I/O lines, 3 16-bit counter/timers, and 3 independent PC bus interrupt inputs.

The 48 digital I/O lines on Onyx-MM are based on 2 82C55 ICs. They can be programmed for input or output in groups of 8 lines. Direct as well as strobed (latched) I/O modes are supported, and all I/O lines are connected to 10K Ohm pull-up resistors.

The 3 16-bit counter/timers are based on an 82C54 IC. They are controlled through a configuration register on Onyx-MM (in addition to the standard 82C54 configuration register). The counter inputs can be switched between external signals, the on-board 4MHz clock oscillator, or counter outputs, all under software control. By using one counter's output as another counter's input, you can cascade counters in software to create a 32-bit or 48-bit counter.

Onyx-MM also features programmable interrupt operations. A second software-controlled register on board configures up to 3 interrupt lines on the PC bus. Interrupts can be generated by the counter/timer outputs, digital I/O lines, or an external input line. This allows you to use a

SPECIFICATIONS

Digital I/O lines	48 programmable direction
DIO Input voltage	Logic 0: -0.5V min, 0.8V max Logic 1: 2.0V min, 5.5V max
DIO Output voltage	Logic 0: 0.0V min, 0.4V max Logic 1: 3.0V min, Vcc-0.4V max
Programmable I/O Output Current (Max per line)	±2.5mA per line
Fixed I/O and Counter / Timers Output Current	N/A
Counter / Timers	3, 16-bit based on 82C54 (Onyx-MM only)
Clock	10Mhz
Bus Interface	PC/104 (8-bit ISA)
Dimensions	3.55" x 3.775" (90mm x 96mm)
Input Power	+5VDC±10%
Power Draw (typical)	100mA (Onyx-MM-DIO) 120mA (Onyx-MM)
Operating temp	-40°C to +85°C
Weight	2.3oz / 65g (Onyx-MM-DIO) 2.8oz / 79g (Onyx-MM)
Digital I/O lines	48 programmable direction
DIO Input voltage	Logic 0: -0.5V min, 0.8V max Logic 1: 2.0V min, 5.5V max
DIO Output voltage	Logic 0: 0.0V min, 0.4V max Logic 1: 3.0V min, Vcc-0.4V max

Free Software

Onyx-MM-DIO comes with free driver software compatible with C and Basic languages. Example programs are included to get you started quickly. Some examples of the supported board operations are:

- * Digital input, bit, byte, and word
- * Digital output, bit, byte, and word
- * Interrupt-driven digital I/O with external trigger

ORDERING INFORMATION

Part No.	Description
OMM-DIO-XT	Onyx-MM 48 Digital I/O only Extended Temperature
WK-ODIO-01	OMM-DIO Development Kit

FOR MORE INFORMATION

Diamond Systems Corporation
1255 Terra Bella Avenue
Mountain View, CA 94043
Tel: 650-810-2500
Fax: 650-810-2525
techinfo@diamondsystems.com