

# 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

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

## FOR MORE INFORMATION

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