

# Prodigy Multi-Debug Module

The Prodigy Multi-Debug Module (MDM) allows for the concurrent debugging of multiple FPGAs. Prodigy MDM works within the Prodigy Player Pro cockpit to go beyond debug set up to specify trigger conditions then debug multiple FPGAs with the help of an external Prodigy MDM hardware module. The MDM external hardware enables deep tracing of the cause of bugs with the ability to store up to 16GB of waveforms. The high-speed Giga-Ethernet cables allow the captured data to be quickly transferred to the host computer. The MDM captures and stores waveforms continuously removing the need to consume design FPGA memory for debug.

## Highlights

- Debug across 4 LM boards simultaneously using a single logic analyzer
- Trace at speeds up to 40MHz using high-speed GT transceivers
- Trace up to 16K probes per FPGA in 8 groups of 2K probes each without re-compile
- Store up to 16GB of waveform data externally



Prodigy™ Multi-Debug Module hardware setup

## Features

In combination with Prodigy Player Pro, the advanced multiple FPGA debug capabilities include:

### RTL-level Probing

The GUI allows you to mark and upload internal signals to the external MDM hardware for easy setting of trigger conditions and signal tracing.

### Integrated In-Circuit Debug Setup

- Preserve internal FPGA probes before synthesis
- Probes are distributed to multiple FPGAs automatically based on partition results
- Set up trigger and trace signals in multiple FPGAs from a single console

### Large Number of Probes Without Re-Compile

- Mark an unlimited number of internal FPGA probes before synthesis
- Trace up to 16K probes per FPGA in 8 groups of 2K probes each without FPGA re-compilation

### Trigger Condition Specification

Users can easily set trigger events and combinational events

- Trigger events support: ==, !=, >=, <=, >, < and counting
- Combinational events support: !, &, |, ^, -> and counting
- Supports up to 8 event trigger blocks. Each block can run comparison, sequencing, occurrence and combination operations

## Features

### 16GB Deep Trace

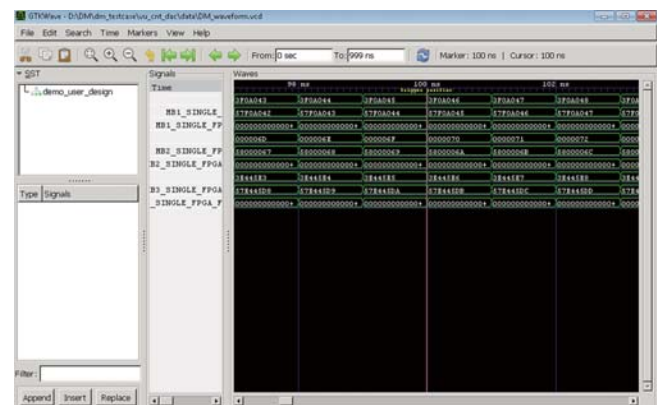
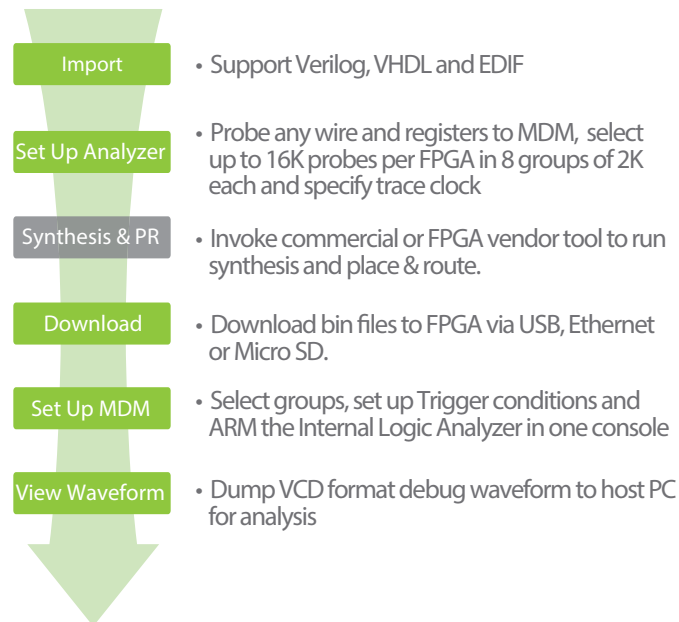
- Store 16GB of waveforms on two 8GB DDR3 SO-DIMM memories on external MDM hardware
- Transfer captured waveforms to host computer through high-speed Giga-Ethernet cables
- Remove consumption of design FPGA memory for debug
- Capture and store waveforms continuously

### Concurrent Debug of Multiple FPGAs

- Debug across multiple FPGAs simultaneously using a single Logic Analyzer
- Transmit trigger and trace data from multiple FPGAs to the Prodigy MDM hardware through high-speed Gigabit transceivers

## Integrated with Prototyping Setup Flow

Prodigy MDM works within the Prodigy Player Pro cockpit to go beyond debug set up to specify trigger conditions then debug multiple FPGAs with the help of an external Prodigy MDM hardware module.



*Concurrent Debugging of Multiple FPGAs in one console*