# PMC850 - Advanced PMC-X Bus Analyzer / Exerciser

**P M C 8 5 0**

**P M C – X**
**Bus Analyzer**

## Analyzer
- Capture Bus Activity
- Event Recognition
- Complex Triggering and Filtering
- Time Stamping and Measurement
- State and Waveform Displays
- Power Zoom (533 Mhz)

## Exerciser
- Memory, I/O, Config Transfers
- Generate Test Patterns
- Configuration Scanning
- Control Address / Data Width
- Read / Write to a File

## Stimulus
- Fault Injection
- Control Bus Timing
- Hardware Simulation
- Pattern Generation
- Drive any Signal

## Target Memory
- Windowed Bus Memory
- Split, Retry, Disconnect Response

## Protocol Violation Checker
- Detects >50 Protocol Violations
- Listed in State/Waveform Display
- Used as Trigger / Filter

## Timing Violation Checker
- Checks Unstable Signals
- Setup and Hold Verification
- Glitch Detection

## Performance Analysis
- Bus Utilization
- Transfer Rate
- Latency
- Burst Distribution
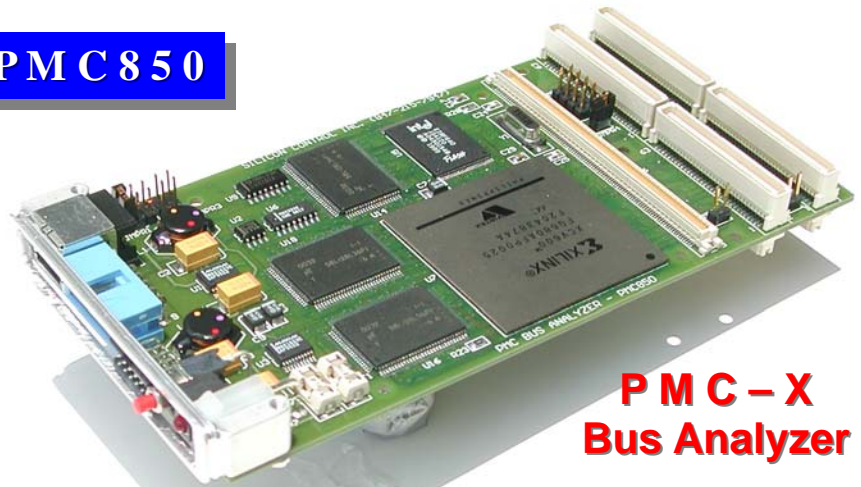- Statistics

## Compliance Testing
- PCISIG Checklist

## Windows and API Interface
- Analyzelt Windows Software
- User programmable API

## Expansion Connector

The PMC850 Analyzer operates in 32 and 64 bit PMC and PMC-X systems running at 0 to 133 Mhz. Over 100 protocol and timing violations are automatically checked and correlated with captured bus activity. System performance measurements include Bus Utilization, Transfer Rates, Latency, and Statistics. Another PMC card can be plugged onto the PMC850.

## Analyze It! Windows Software
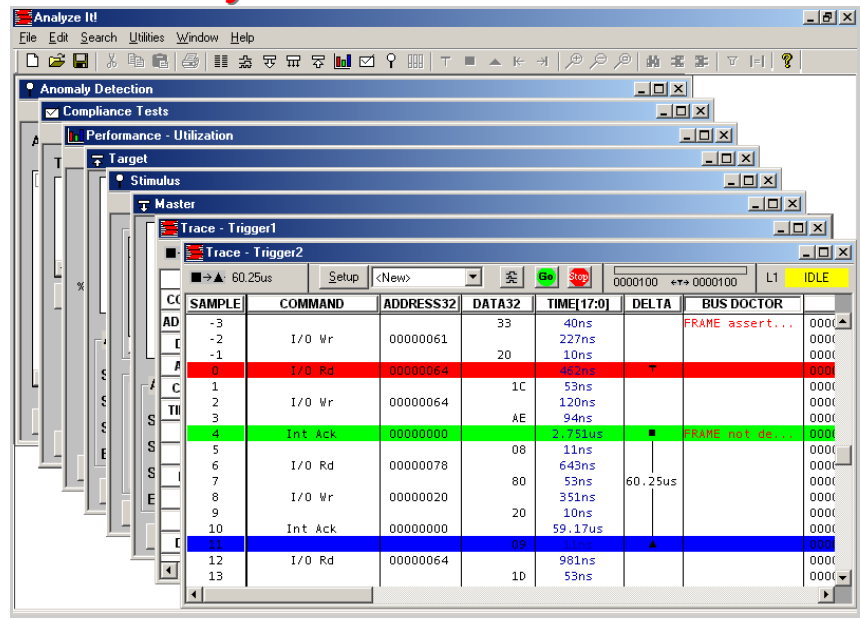
Silicon Control introduces the ultimate analyzer and exerciser for PMC and PMC-X systems. This 3rd generation PMC analyzer combines high performance hardware with a sophisticated and intuitive software interface. The result is a powerful diagnostic tool for bus analysis all on a single plug-in card.

# PMC850 SPECIFICATIONS

## General Specifications
PCI Compliance: PCI 2.2 , PCI-X 1.0 Compliant
Bus Size: 64 or 32 bit
Bus Signal Levels: 5V or 3.3V

## Trace Specifications
Trace Memory:

| | |
|---|---|
| PMC850-1 | 128K by 144 bits |
| PMC850-2 | 256K by 144 bits |
| PMC850-3 | 512K by 144 bits |
| PMC850-4 | 1M by 144 bits |
| PMC850-5 | 2M by 144 bits |

Sampling Rate: 0 to 133 Mhz
 High speed power zoom 533 Mhz

Sampling Modes: System Clock
System Clock w/ Address/Data
System Clock w/ Transfers
On board precision Oscillator
(7.5ns to 15us)

Sampled Signals: AD[63:0], C/BE[7:0], FRAME,
DEVSEL, TRDY, IRDY, PAR,
REQ, GNT, RST, LOCK, CLK,
INTA, INTB, INTC, INTD,
PAR64, PERR, SERR, REQ64,
ACK64, TDO, TDI, TCK, TMS,
TRST, SDONE, SBO, EXT[7:0]

External Inputs: 8 Front Panel Trace/Trigger

External Outputs: 1 Programmable Trigger Output

Triggers: 8 Trigger Conditions each
Specifying 100 PMC Signals,
8 External Triggers and Anomaly

Trigger Types: Single Condition
Logical Combination
16 Level Sequencer

Trigger Positions: 0%, 25%, 50%, 75%, 100%

Occurrence Counters: 16 hardware counters  20 bits

Event Counters: 16 hardware counters 20 bits

Time Tag: 7.5 ns to 60 sec.

## Exerciser Specifications
Initiator Bandwidth: 1056 MB/s rate

Initiator Bus Width: 64 or 32 bit

Initiator Transfers: Memory, I/O, Configuration

## Target Specifications
Target Memory:

| | |
|---|---|
| PMC850-1 | 1 MB |
| PMC850-2 | 2 MB |
| PMC850-3 | 4 MB |
| PMC850-4 | 8 MB |
| PMC850-5 | 16 MB |

Target Bandwidth: 1056 MB/s burst rate

Target Bus Width: 64 or 32 bit

## Front Panel Interfaces
RS232 Port: DB9 connector,
110 to 115K Baud
(cable included)

USB Port: Series B connector, 12 MB/s
(cable included)

Indicators: GO LED, User LED

Pushbutton: Reset Analyzer or System

External Power: 2 Conductor front panel
(cable included)

Trigger: 10 pin socket
(8 in, 1 out, 1 ground)
(cable included)

Fuses: Main power and External power

**Power Requirements** Operating—5V at 3 Amps max
Standby—5V at 1 Amp max

**Dimensions** PMC850—Single Slot PMC Card

**Ordering Information—***PMC Analyzers*

| PMC850-1 | 128K Trace Buffer |
|---|---|
| | 1 MB Target Memory |
| PMC850-2 | 256K Trace Buffer |
| | 2 MB Target Memory |
| PMC850-3 | 512K Trace Buffer |
| | 4 MB Target Memory |
| PMC850-4 | 1M Trace Buffer |
| | 8 MB Target Memory |
| PMC850-5 | 2M Trace Buffer |
| | 16 MB Target Memory |

/NC suffix designates no J1, J2, J3 and J4 test connectors on
the back side of the PMC850.