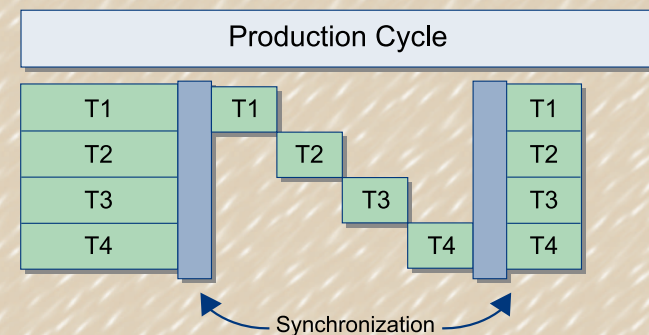


## Production Automation

Resources for individual tests (eg. PXI, IEEE) can be shared to achieve further savings



Concurrent Test allows parallel test as well as sharing of test resources

## C-LINK DTM including:

Board testability report  
Automatic fixture design  
Drill file and wire list outputs  
Fixture plot with automatic label positioning  
Generation of repair data (Layout, Schematics)  
Schematics backannotation

## Tester-Software

CITE (Computer Integrated Test Environment) including:

Board Description Editor  
Analog, Digital and Complex Component Library  
Library Manager  
Automatic Test Program Generator (APG)  
Versions and ECO Handling  
Automatic Multi Panel Support  
Flow Designer and Menu Aided Programming  
IEEE-488 Instrument Library  
Pattern Executive (PatEx)  
Interpreter Mode and Debugging Tools  
Test Program Translation  
Layout and Schematic Display  
On-line Help and User Guide

In-Circuit Test	
<b>Analog ICT</b> <ul style="list-style-type: none"> <li>• 3 voltage/current sources with programmable current/voltage limitation</li> <li>• 0-±10V DC-100kHz, 0-±25V DC-100kHz and 0-+100V DC</li> <li>• Measuring voltage up to ±25V DC-100kHz, up to +100V DC</li> <li>• Measuring current up to ±100mA DC-100kHz</li> <li>• Resistance 0.1 to 100MΩ</li> <li>• Capacitance 1pF to 100mF</li> <li>• Inductance 10μH to 1000H</li> <li>• Orientation of polarized capacitors</li> <li>• Opens detection of IC pins and connector test</li> </ul>	<b>Digital ICT</b> <ul style="list-style-type: none"> <li>• One logic family per board</li> <li>• Programmable High and Low levels for drivers between +/-10V</li> <li>• Programmable High and Low thresholds for sensors between +/-10V</li> <li>• Every driver monitored through its own sensor</li> <li>• Automatic Output Voltage Regulation</li> <li>• Backdriving Current +/-500mA</li> <li>• Programmable Inter Strobe Time</li> <li>• Bus Commands, Count, CRC</li> <li>• Comprehensive Component Test Library</li> </ul>
<b>Functional Test</b> <ul style="list-style-type: none"> <li>• Up to 8 prog. Power Supplies (UPS) 9V/10A, 24V/5A, 45/3.5A</li> <li>• Source and Measurement (MSM) DC-10KHz, 0-±100V</li> <li>• Timer Counter Unit (MTC) up to 100MHz, 10ns to 42s</li> <li>• Function Generator up to 30MHz</li> <li>• Boundary Scan Tests</li> <li>• Serial programming module (SPM)</li> </ul>	
<b>Software</b> <ul style="list-style-type: none"> <li>• Microsoft Windows 2000/XP</li> <li>• Microsoft Visual Basic as a test language</li> <li>• CITE - Computer Integrated Test Environment</li> <li>• C-LINK - Link Design to Test</li> <li>• QMAN - Quality Management Solutions</li> </ul>	



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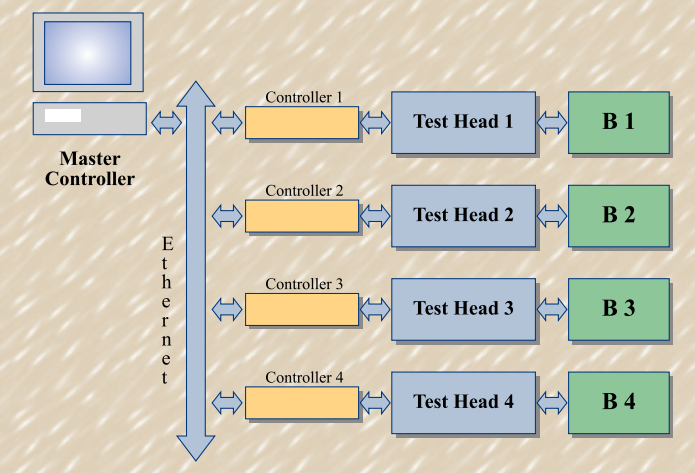
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**Increasing Test Coverage Without Affecting Cycle Time**

**Inexpensive vs. several individual testers (approx. 80% vs. 300%)**

- One Tester
- One Fixture
- One Software License
- One Handling System



- Saving Test Cycle Time (up to 75%) while increasing Test Coverage
- Saving Inline Automation Handling equipment
- Minimized floor space

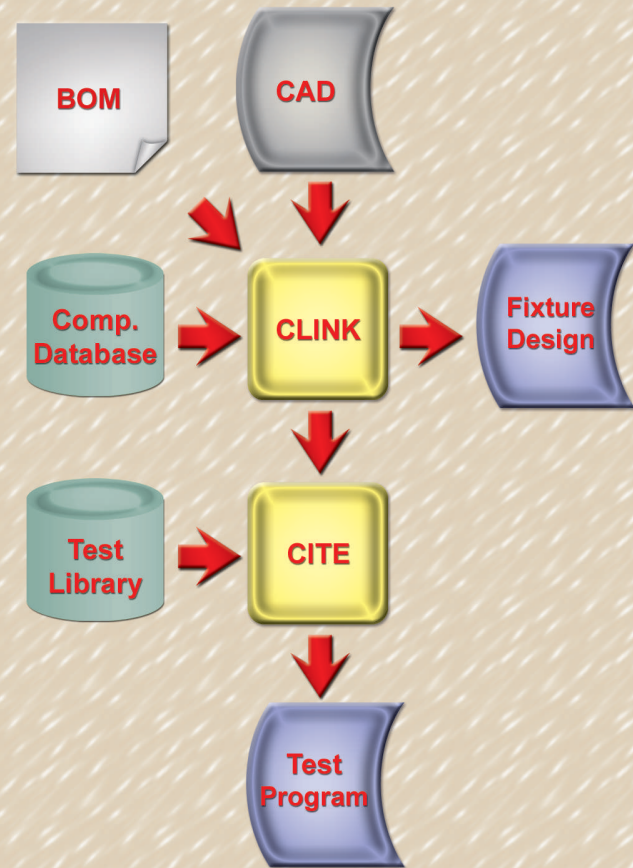
Copyright © 2005 Digitaltest. All rights reserved





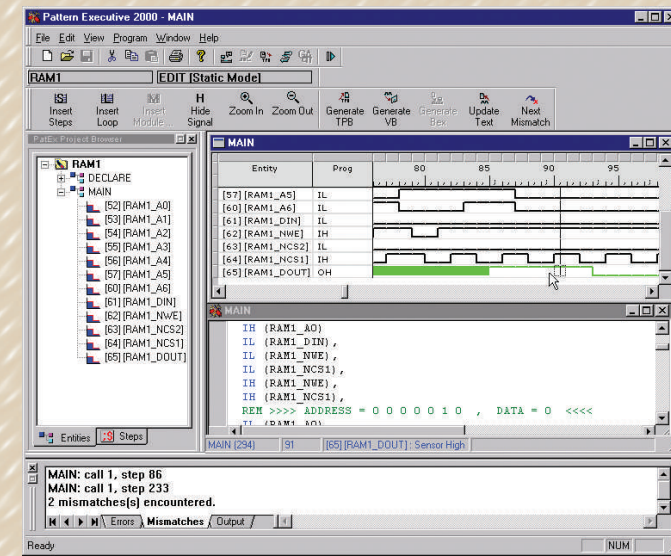
### Fast Test Program Development

- Links to CAD through C-LINK
- Importing data from over 60 design formats
- Configurable BOM Reader
- Comprehensive Component Database
- Vast Test Module Library
- Automatic Test Program Generator



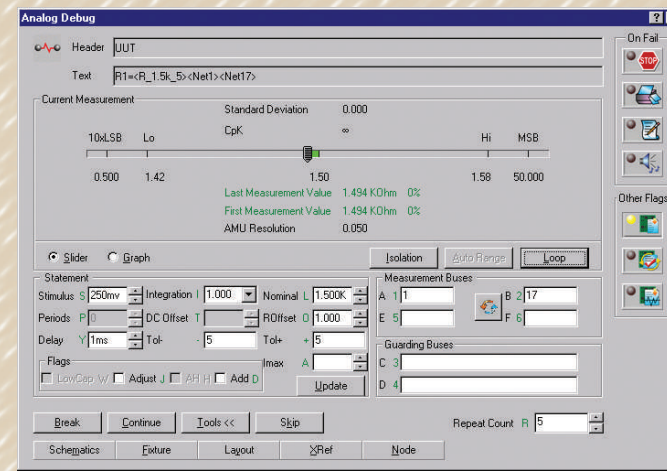
### Easy Program Debugging

- Extensive tools for test program debugging
- Auto Debug feature for passive components
- All board information on screen
- All component information including data sheets
- Board Layout
- Intelligent Board Schematics



### High Throughput

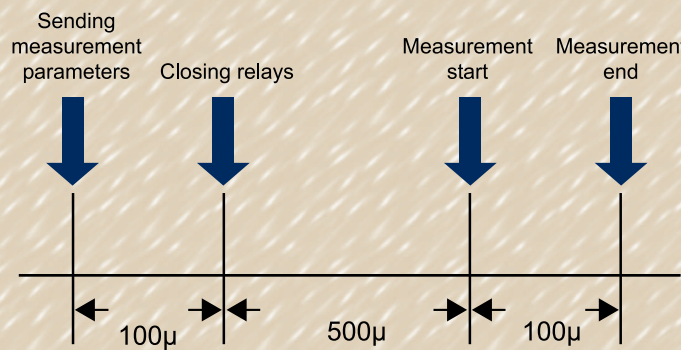
- DSP based Analog Measurement Unit allows fast and accurate measurement
- One measurement each 4µsec.
- Up to 1000 measurements per sec.
- Up to 1000 short measurements per sec.
- Up to 500 open-tests per sec.
- Production test programs run in compiled mode



### High Fault Coverage

Through multiple test strategies

- Analog & Digital ICT
- Vectorless Test
- Functional Test
- Memory Test & Flash Programming
- On-Board Programming
- Boundary Scan



Stable measurement in less than 1 msec. created out of the average of 25 measurements (one measurement each 4µsec.)

### Reducing Test Costs

#### Reducing Time to Test

#### Improving Test Quality

### High Test Quality

#### Analog

- Concurrent Inline Testing of 2-4 units
- Units in panel can be different
- Up to 768 analog non-multiplexed pins per unit
- DC and AC up to 100kHz
- 2,3,4 and 6 wire measurement
- Measuring real and imaginary impedance simultaneously
- Reed Relays allow up to 100V
- LowCap feature allows measurement of very small capacitances 1pF
- Orientation of polarized capacitors
- Connector Test
- Opens detection of digital components

#### Functional

- Board power up and current consumption
- Frequency and Time measurement
- Source and Measurement voltages and currents
- Serial data protocols (CAN, I<sup>2</sup>C, RS232)
- Menu Aided Programming for functional test development
- Boundary Scan Test



#### Digital

- Hybrid Pins (analog and digital) 64 pins per module, up to 384 per unit; any mix of analog and hybrid pins is possible
- Non-multiplexed 1:1 pin architecture
- Each driver monitored through its own sensor
- Programmable high & low driver levels and sensor thresholds
- Automatic regulation of output voltage to programmed value
- Voltage monitoring and current monitoring for each pin
- Bus commands, Count commands and CRC commands
- Measure high, low and midrange
- Programmable Inter Strobe Time
- Backdriving current ±500mA
- Backdriving protection defines backdriving time according to backdriving current

#### On Board Programming

- Testing and programming of memory components
- Flash programming and serial device programming
- Configurable memory structure
- Supports high level programming language
- Allows simple programming and debugging through menus

### Powerful Software Environment

#### Automatic Test Program Generation

- Test program language: Microsoft Visual Basic

#### Huge Test Library

- Several thousands of test models for analog components
- Extensive digital test libraries include component information, enable and disable information as well as test sequences, combined with datasheets
- Library Manager for adding, modifying of library models

#### Test Program Qualification

- Test Coverage Report (TCR)
- Test Stability Report (QCAM)

#### Data Logging

- Logging of board test data to a certain board ID for all or user defined measurements
- Logging of board failure data to a certain board ID for board repair and Quality Management

#### Quality Management Software (QMAN)

- Supports all testers not only MTS testers
- Supports multiple test steps and ensures that the boards will go through all test steps in the right sequence
- Using board failure data and repair information to highlight weaknesses in the production process
- Trend Alarm
- Failure Catalog
- Numerous reports can be generated such as First Yield Report, Top n faults, Top n fault causes, etc. as well as user defined reports

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The Evolution of Test