

CHECKSUM ✓

Don't be the Bottleneck.™



12KN

Off-Line Test System



ILS-3000

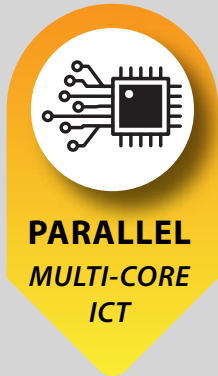
In-Line Test System

The Power of Parallel™ ✓

The Power of Parallel™

30 years and over 4,000 systems deployed, CheckSum serves the global electronics industry with technologies that deliver results. Accuracy, stability, and reliability combined with the industry's most innovative parallel test solutions produce the fastest test speed available.

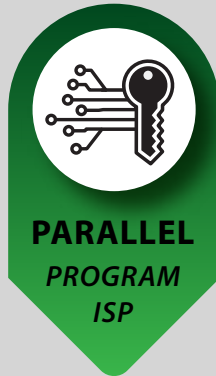
Unmatched Parallel Test Capability



**PARALLEL
MULTI-CORE
ICT**

CHECKSUM ICT™

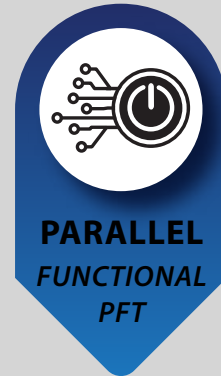
- Stable Accurate Measurements with the Industry's Fastest ICT
- Full Test Coverage from 200 to 20,000 Test Points
- Quad-Core, Dual-Core, or Single Core
- Over 4,000 Systems Deployed Globally



**PARALLEL
PROGRAM
ISP**

CHECKSUM MultiWriter™

- Turnkey Programming Solution with Noise-Proof In-Fixture Buffer Technology
- Program up to 384 Devices in Parallel
- Billions of Devices Programmed
- IP Protection and Security

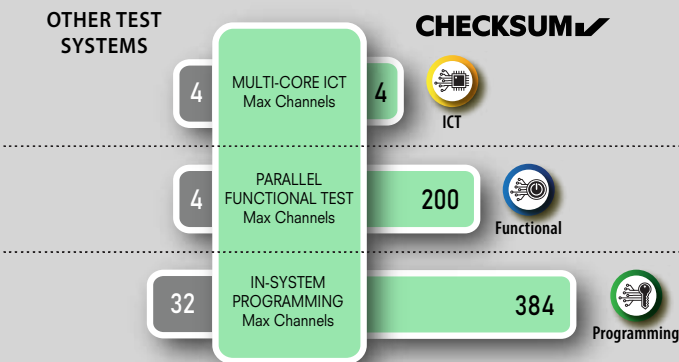


**PARALLEL
FUNCTIONAL
PFT**

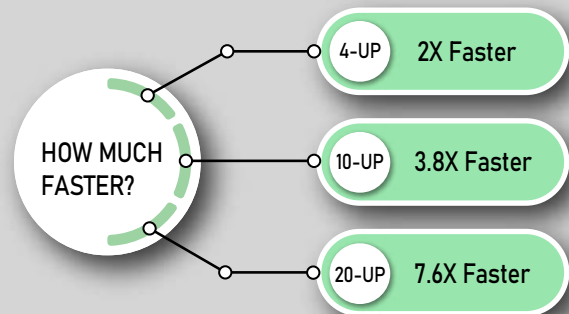
CHECKSUM PFT™

- Parallel Functional Test 2 to 200 Boards at a Time
- In-Fixture Module Design is Flexible and Scaleable
- Turnkey Functional Test Solutions
- Voltage, Current, Frequency, CAN, LIN, SPI, I²C, JTAG, Dig IO, Loads, Power Control and Self-Test

The Most Parallel Capabilities

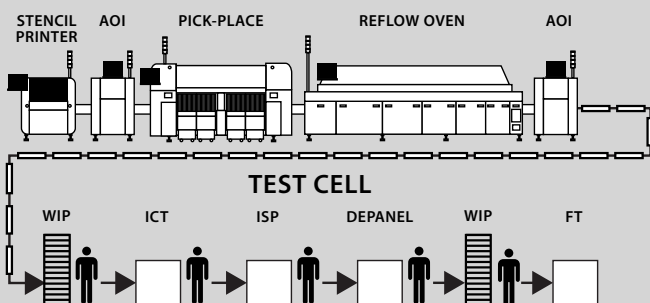


Parallel Test Provides Breakthrough Speed



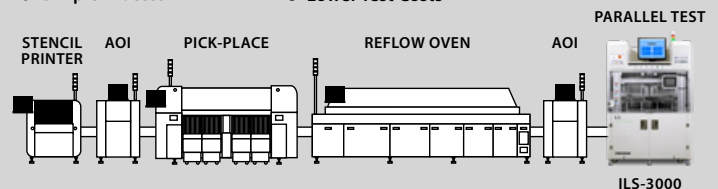
Traditional Process

- High Labor Usage
- Multiple Handling Steps per Board
- Complex Process
- WIP Inventory Cycle and Slow Feedback Loop
- Large Footprint Required



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- No Human Handling
- Higher Throughput
- Reduce Test Cell Footprint
- Simple Process
- Immediate Feedback to SMT Line
- Reduce Risk of Scrap and Rework
- Improve Quality with Touchless Test
- Lower Test Costs



10x Faster Test Provides Cost Reduction and Process Improvement

Example 20-Up Panel:

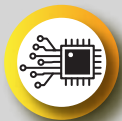
Test: ICT
Programming
LIN Communication

Results:

Save \$500,000 per Year
Eliminate Recurring WIP Inventory
Touchless Test - No Human Handling
Real-Time Feedback Reduced Risk of Scrap

Current Solution		CHECKSUM ✓	
Test Time Comparison	In-Circuit Test	40 sec	10 sec
	Part Programming	5 sec	5 sec
	FT-LIN	100 sec	5 sec
	Handling	210 sec	10 sec
Total Test Time - 355 sec		30 sec	

Current Solution		CHECKSUM ✓	
Results Comparison	In-Circuit Test	x1 System	1 System
	Part Programming	x1 System	1 System
	FT-LIN	x3 Systems	3 Systems
	Handling	x7 Operators	1 Operator
720 boards/hr.		2400 boards/hr.	

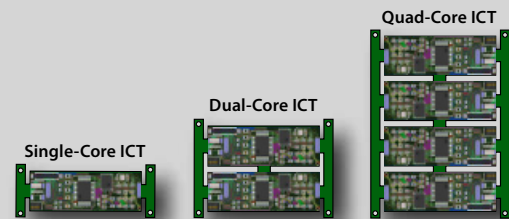


CHECKSUM ✓ ICT™

Multi-Core

Powerful Multi-Core ICT provides comprehensive coverage up to 20k test points. Fully customizable and easily upgradeable, with available options for In-Line, Off-Line or Rackmount systems. Fast, accurate and stable with easy program development, a proven platform with billions of boards tested on over 4000 systems deployed Globally.

- Continuity and Component Test
- Power-On Testing
- Boundary Scan
- TestJet Technology*
- Fast DSP Measurement
- Single, Dual and Quad-Core Available



Quad-Core delivers a 4X throughput advantage providing flexibility to scale as needed



CHECKSUM ✓ MultiWriter™

In-System Programming

MultiWriter™ achieves high speed and signal integrity with a patented in-fixture buffer card design. The buffer cards allow MultiWriter to simultaneously program an entire panel of up to 384 devices.

- Support for any Serial Programmable Device
- Program, Byte by Byte, CRC Verifications, Blank Checking, Device Locking
- Serial Numbers, Cal Constants, and Margin Verify
- IP Security and Data Encryption
- Galvanic Signal and Power Isolation



MultiWriter™ programs the entire panel in parallel



CHECKSUM ✓ PFT™

Parallel Functional Test

PFT* is a patent pending technology utilizing in-fixture modules that enable parallel functional test of 2 to 200 PCBAs at the same time. Flexible and scalable by design, PFT modules support the unique test requirement of each product. Seamless integration with CheckSum's test software ensures you are production ready with a turnkey test solution, reducing cost and time to market.

- Voltage (Source & Measure)
- Digital I/O
- Frequency
- Loads
- Current
- Individual UUT Power Control
- Serial, CAN, LIN, I2C, SPI
- Discharge
- Self-Test / Diagnostics

The Power of Parallel™



CHECKSUM ILS-3000 In-Line Test System

Powerful, Flexible and Proven production test system that delivers the complete suite of CheckSum's test capabilities for ICT, ISP and PFT (Parallel Functional Testing).

- Easy Integration with all CheckSum Test Electronics
- Up to 3000 Test Points
- Top and Bottom Probing
- 30 Second Fixture Changeover
- Rapid Board Transport and Press Actuation
- Optional Auto-Rail width Adjust
- Dual-level Operation
- Deployed In-Line or as Automated Test Cell



CHECKSUM 12KN Off-Line Test System

Cost Effective and Powerful production test system that delivers the complete suite of CheckSum's test capabilities for ICT, ISP and PFT (Parallel Functional Testing).

- Easy Integration with all CheckSum Test Electronics
- Standard Dual-Level Probing
- Integrated Rack for Optional 3rd Party Instrumentation
- 60 Second Fixture Changeover
- Rapid Press Actuation
- Fully Customizable & Upgradeable
- Up to 5200 Test Points

Fixtures, Programs, Support

CheckSum is the only supplier offering complete turnkey board test solutions.

- Complete Design, Manufacture and Support for your Project
- Custom Fixturing for All Test Requirements, Including: Board Marking, Connector Presence & Position, LEDs Colors, QR Code Readers
- Direct Engineer-to-Engineer Support
- Design for Test Analysis, Strain Analysis, Test Coverage Analysis
- Dual-Level Probing Capability for Power-On Functional Testing
- Cost Effective, Light Weight and Robust Fixture Design



CheckSum Production Test Software

Intuitive Interface with easy to use icons, CheckSum's Analyst Test Software provides a comprehensive set of tools to ensure the quality and efficiency of your test operation.

- Production Reporting for Process Efficiency, Quality Metrics and Traceability
- Multi-Language Support with Shortcut Keys and On-Line Help
- Enhanced Automated Test Program Generator for Fast Program Optimization
- Advanced Tools: External Program Calls, Data Manipulation, Conditional Branching, Loops, and Self-Modifying Code
- Easy Debugging with Flow-Based Test Programs, System Self-Test and Program Optimization

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*TestJet Technology is protected under U.S. Patent Nos. 5,124,660 and 5,254,953.

MultiWriter Technology is protected under U.S. Patent No. 7,802,021. Parallel Functional Test is patent pending

www.checksum.com

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