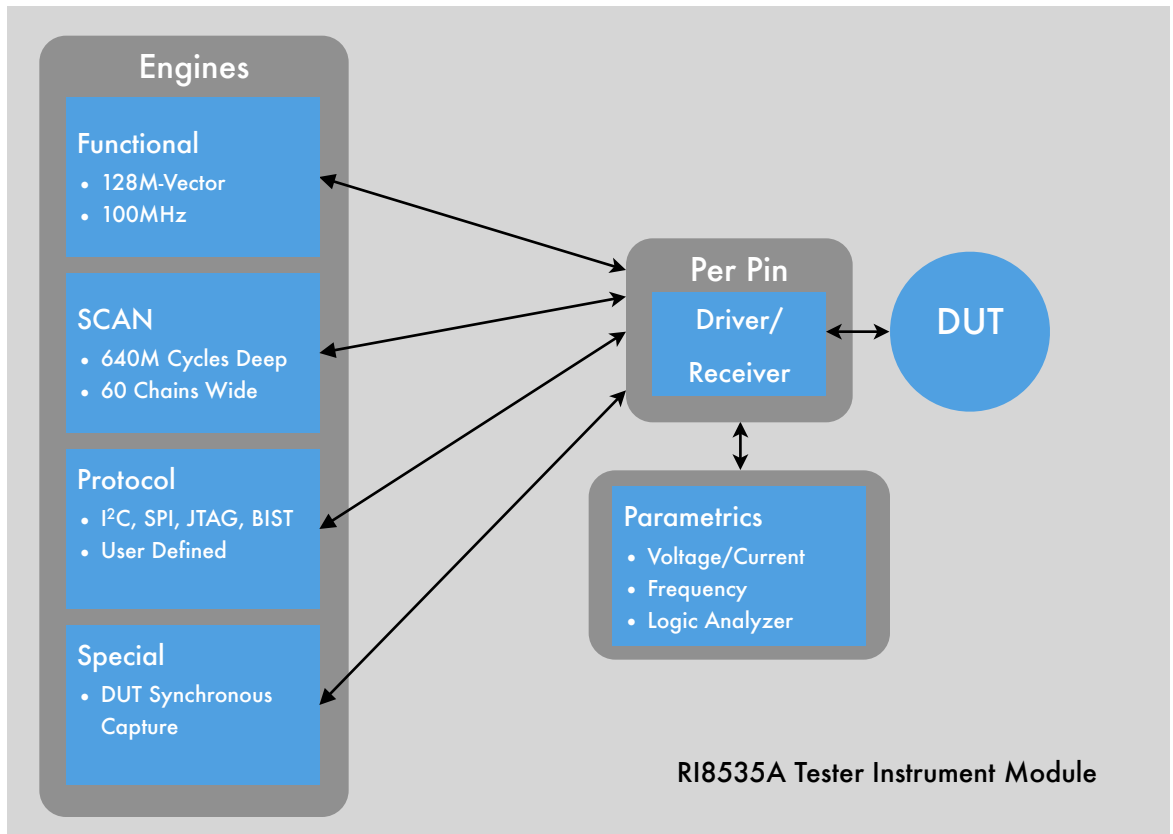




# Tester Instrument Module Brief



## RI8535A 40 - 120pin Universal Digital Module

### High Speed Digital Subsystem

The RI8535A/B/C Digital Test Instruments provide a self contained full function digital subsystem for more than 1000 pins on the Cassini Test Platform.

Each module is designed to provide various digital test architectures including vector, scan, I<sup>2</sup>C, SPI and JTAG formats. The included software provides a protocol aware interface allowing interaction with the DUT in a device native, register/data format facilitating intuitive test plan development.

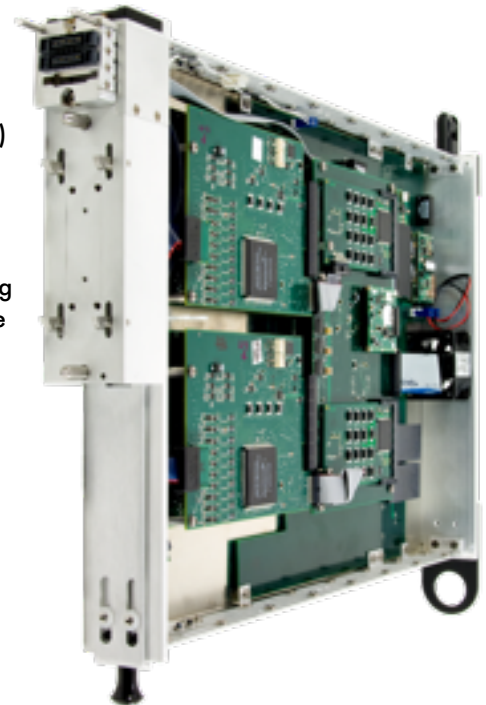
The RI8535 is configurable with 40, 80 or 120 pins. All configurations

include a per pin measurement (PPMU) for parametric and contact integrity testing.

Each block of 40 pins features 32 programmable edges grouped in timing sets. Edge programming can be unique for each group of 40 pins.

Vector translation is available for .WGL, .CSV, .TP and Verilog functional test data.

Contact [sales@roos.com](mailto:sales@roos.com) for more information.



### Key Specifications

- ⇒ 10ns minimum period
- ⇒ 100MHz Clocks
- ⇒ 50ps Edge Placement Accuracy
- ⇒ 0-4V Logic Levels
- ⇒ 0.1Hz Period Resolution

## R18535 Key Features

- Protocol Based Engine for DUT Control
- 120 Pins per TIM, 16 TIMs per tester
- Pattern Import Tools
- Logic Analysis Tools
- Native JTAG Support
- Pattern Generation on the Fly

## TIM Level Performance Data

### R18535 Specifications

Pins Per TIM	Up to 120 in blocks of 40
Rate	Up to 100MHz
Resolution	0.1Hz
Synchronization	Within $\pm 10$ ns of system reference
Period Clock:	Independent per block of 40 pins
Data:	100MTS
Clock:	100MHz
Rise/Fall Time at the DUT	2ns
Protocols Generated	I <sup>2</sup> C, SPI, JTAG, SCAN, others
Time Sets	32 edges per block of 40 pins
Memory	
Vector Depth Per Pin	128M (optional) 16M (standard)
Fail Memory	32kVectors
Scan chains per pin block	128M x 20 pin 256M x 10 pin 512M x 5pin
Drive	0-4V (50ohm), 1mV Resolution@4V, $\pm 0.25\% + 30$ mV accuracy
Compare	0-4V (50ohm), 1mV Resolution@4V, $\pm 0.25\% + 30$ mV accuracy
Load	HiZ, 50ohm into $V_{term}$ , $V_{term}$ resolution 1mV@4V $\pm 0.25\% + 30$ mV accuracy
Parametric	
$V_{force}$	Range -2V to +3V; 0V to +5V, 1mV Resolution, $\pm 0.25\% + 30$ mV accuracy
$V_{measure}$	Range -5V to +5V, 0.5mV Resolution, 0.1% accuracy
$I_{force}$	Range: $\pm 20$ mA, 1 $\mu$ A Resolution, $\pm 0.25\% + 20$ $\mu$ A accuracy
$I_{measure}$	20mA Res.: 2 $\mu$ A, Acc: $\pm 0.25\% \pm 20$ $\mu$ A 2 mA Res.: 200nA, Acc: $\pm 0.4\% \pm 0.5$ $\mu$ A 200 $\mu$ A Res.: 20nA, Acc: $\pm 0.4\% \pm 0.1$ $\mu$ A 20 $\mu$ A Res.: 2nA, Acc: $\pm 0.4\% \pm 50$ nA
Tools:	Logic Analyzer, Vector Editor, Input: WGL, CSV, ATF Custom

\* All time bases for system components are synchronized. Internal time base accuracy is  $\pm 1$  ppm variation from 10 to 30 degrees C and  $\pm 5$  ppm absolute accuracy.

## Mechanical Specifications

Single TIM Unit  
 Weight: 6 lbs  
 TIM Block Type: 40/80/120 pin Digital Block  
 TIM Blindmate Contact Force: 7.5 lbs

Information furnished by Roos Instruments Inc, is believed to be accurate and reliable. However no responsibility is assumed by Roos Instruments for its use. Specifications subject to change without notice.

## Cassini Test Systems

A Complete High Speed Automated and Integrated Test Solution for all types of communications and mixed signal devices.

Cassini test systems consist of a simple base system providing computer, power, software and docking capabilities.

Additional test capability needed for virtually any type of IC, Wafer, or Module can be configured via Tester Instrument Modules (TIMs) that plug into the Test Head plate.

Each TIM contains its own cooling, signal distribution and blind mate interface suited to its application.



The result is the ability to configure a Cassini for any application with almost no system overhead. This is equally true for low pin count as well as high pin count test requirements

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