Roos Instruments
Modular ATE for the World's Most Advanced Technology

Maintenance

Exchange a TIM

✉ REQUEST RMA   Send Diagnostic Data with Show Full Results Option along with System & TIMs Serial Numbers to Support.

Swapping a Failed TIM takes just minutes. All configuration and calibration data is automatically loaded via Guru™ (Guru provides enterprise class network storage and workflow.). Procedure to exchange Cassini Test Instrument Module (TIM) in 4 steps. Detailed step-by-step process available in the **Cassini Reference Guide**, Chapter 4: Service, Section 1: Exchanging a New or Repaired TIM

Step 1) Prepare for TIM Exchange

- **Import Cal Data** into Guru from the email attachment sent to the site's primary maintenance manager or contact who opened the RMA (Filename = CalData_<serial#>.gzp)
- Unlatch and Lower Testhead from Handler and Remove Fixture.
- Choose **System > Check** from Main System Window (Fixture removed from Configuration)
- Remove TIM From Shipping Box. Do Not Trash TIM Box, Keep For Return Shipment.

Step 2) Exchange TIM

- Depending on the TIM model number, choose the appropriate step:
    - For RI7725 AUX Rack 20 GHz Source, See **Exchanging AUX Rack Source TIM**.
    - For RI8574 EPC System Controller TIM, See **System Controller Exchange Checklist (EPC TIM)**.
    - For RI8545 20 GHz TestSet (Testhead instrument), See **Cal Data Activation (Testhead)**.
    - For all others, Remove Failed TIM With System ON, Pull Top Latch Then Pull Bottom Handle to Release from Testhead.
- Perform **System > Check** (Instrument(s) Removed from Configuration)
- Install New TIM in the same T-location labeled on TIM. Example: | T-4 |
  Slide TIM Horizontally Until Touching Testhead, Slide TIM Vertically Until In Position, Press Top Latch Down
- Perform **System > Check** (Instrument(s) Added to Configuration). Start Warm Up Timer (20 minutes)
- Choose **Tester > Save** menu from the Configuration window to save the configuration.

Step 3) Verify and Release to Production

- Latch Diag/Cal Plate from Diagnostic Kit
- Perform **System > Check** (Fixture Added to Configuration)
- Open Configuration window (**System > Tester**) Perform Targeted Diags (**Tester > Diagnose**, Select Plans for Instrument Model #s)

  NOTICE! Wait for the TIM to warm up at least 20 minutes before running Diagnostics

- If Diags Pass, Unlatch Diag/Cal Plate, Latch Fixture and Release to Production (Skip To Step 4)
- To Confirm Recent Cal Data, Select Instrument from Config Window, RMB Menu Choose **Calibration > Restore… > OK**. If One or More Dates Do Not Appear, Import Cal Data (contact Manager) and Choose **System > Startup**. Perform Targeted Diags Again.
- If Diags Fail, Run Full Diags, then Perform Targeted Calibration (TIM or Complete RF System)

Step 4) Document and Return Failed TIM

- Prepare return shipping documents according to Return Shipment Instructions (RSI) (HTC, value, description)
- Write Serial Number if not already included on RSI. Include any relevant information (Diag data, symptoms)
- Ship Failed TIM in provided TIM Box. If a TIM Box is not available, follow these Safe Packing Instructions.

When to Calibrate?

Always import the provided factory calibration data (.gzp). Never calibrate "stand-alone" TIMs outside of the standard calibration interval because they only interface with the Fixture and DIB and so their Calibration data is valid when used in any tester. Calibration may only be needed when changing TIMs with "RF System" connections. The "RF System" is any cable connection between TIMs found on the Diag/Cal Interface Plate (Diag Fixture). Fixture Calibration may be required on Fixtures that use the "calPerTester=True" attribute in the Device Connection Editor. Always follow the **Cassini Reference Guide**, CH 5: Diagnose procedure after changing TIMs and prior to releasing the tester for production.

"Stand-Alone" TIM Models

TIM Model	Description of Stand-alone TIMs (Standard Calibration Interval)
RI8535	Universal Digital TIM (1 Yr)
RI8546	Device Power TIM (1 Yr)
RI8572	Waveform TIM (1 Yr)
RI8575	Phase Noise Measure (Lifetime) - Return to factory
RI8589	FET Pulser TIM (1 Yr)
RI8594	Waveform TIM with Low Noise Clock (1 Yr)

Maintenance Schedule

Detailed Maintenance Schedule information and procedures are in the **Cassini Reference Guide**, CH 3: Care & Maintenance.

Item to Inspect	Time Period	As Needed	Time to Complete	Role/Login	Required Tools	Notify Support
Socket	Daily	Mfg. Suggestion	1-2 min	Operator	Standard Tools, Magnifier	
DIB	Monthly	>10% Yield Change	5 min	Maintenance	Standard Tools, Voltmeter, Magnifier	
Test Head TIM Blocks	Monthly	1000 Fixture Docks	2 min	Operator	Connector Cleaner (lube free), Compressed Air	
Aux Rack SMA Cables	Yearly	20 GHz Source Exchange	1-2 min	Maintenance	SMA Torque Wrench	
Fixture Inserts	Daily	1000 DIB Installs	1 min	Operator	Connector Cleaner (lube free)	

Item to Inspect	Time Period	As Needed	Time to Complete	Role/Login	Required Tools	Notify Support
Calibrate Fixture	Never	Modification	Varies	Developer	Calibration Kit	
Docking Hardware	Monthly	1000 Docks	1 min	Operator	None (Eyes)	If wear is found
Handler POD/RIFL Cable	Quarterly	Frequent Handler Changes	1 min	Operator	Standard Tools	
Diagnose/Verify	Monthly	Yield Drops	5-30 min	Maintenance	Diagnostic Kit	On Failure
Calibrate TIMs	Yearly	TIM Repair	5-30 min	Maintenance	Diag & Calibration Kit	
Calibrate RF System	Yearly	TIM Exchange	2-6 hours	Maintenance	Diag & Calibration Kit	Yes

Diagnose and Calibration

Detailed Diagnose and Calibration information and procedures are in the **Cassini Reference Guide**, CH 5: Diagnose and CH 6: Calibration.

- Diagnostic Kits: custom interface fixture, cables and components needed to self-diagnose issues. (included with system order, required for Calibration)
- **Calibration Kits**: used to calibrate RF system, frequency dependant.
- **Calibration – Written Procedure for Complete Cassini System Cal**
- **Calibration Scope (DC-88 GHz)**