



CASSINI RF ATE System Basic Training Seminar

Administration and Maintenance Chapter 2





Cassini Basic Seminar Outline

- Operation and Troubleshooting
- **System Administration and Maintenance**
- Basic test Plan Concepts
- Science of RF Measurement
- Device Definitions
- Example Application Development
- Test Fixture and Device Interface Design
- Test Design & Best Practice Test Optimization



Chapter Outline (Ch 2)

- **Overview of Guru**
- Creating and Editing User Log-ons
- Using Guru Browser, Address Book
- Software Revisions and Patches
- System Networking and Data Logging
- System Guru System Restore, Sync and Log
- System Guru Agents
- System Software and Errors
- Cassini Module Exchange
- Maintenance Schedule: Daily, Monthly, and Bi-Annually

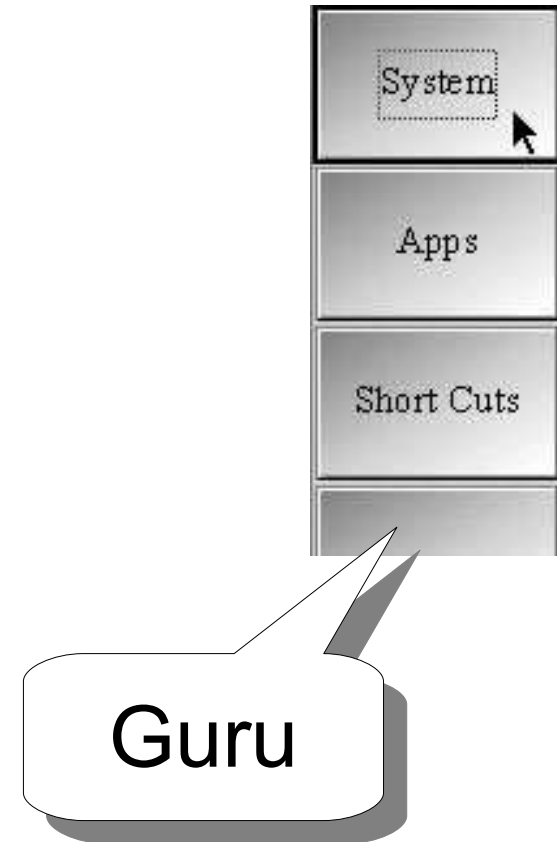


Guru Overview

- Like a File System
- Networked to other Gurus
- Script capable
- Secure (Encryption and Signatures)
- Safe (Automated Backups)
- Revision History (and Audits)
- Better Support from RI

Guru Applications

- System Operating Environment
- Device Control Editor
- Device Connection Editor
- Guru Agent
- Guru Agent Editor
- Guru Browser
- Guru Address Admin
- Guru Users Admin
- Update Manager





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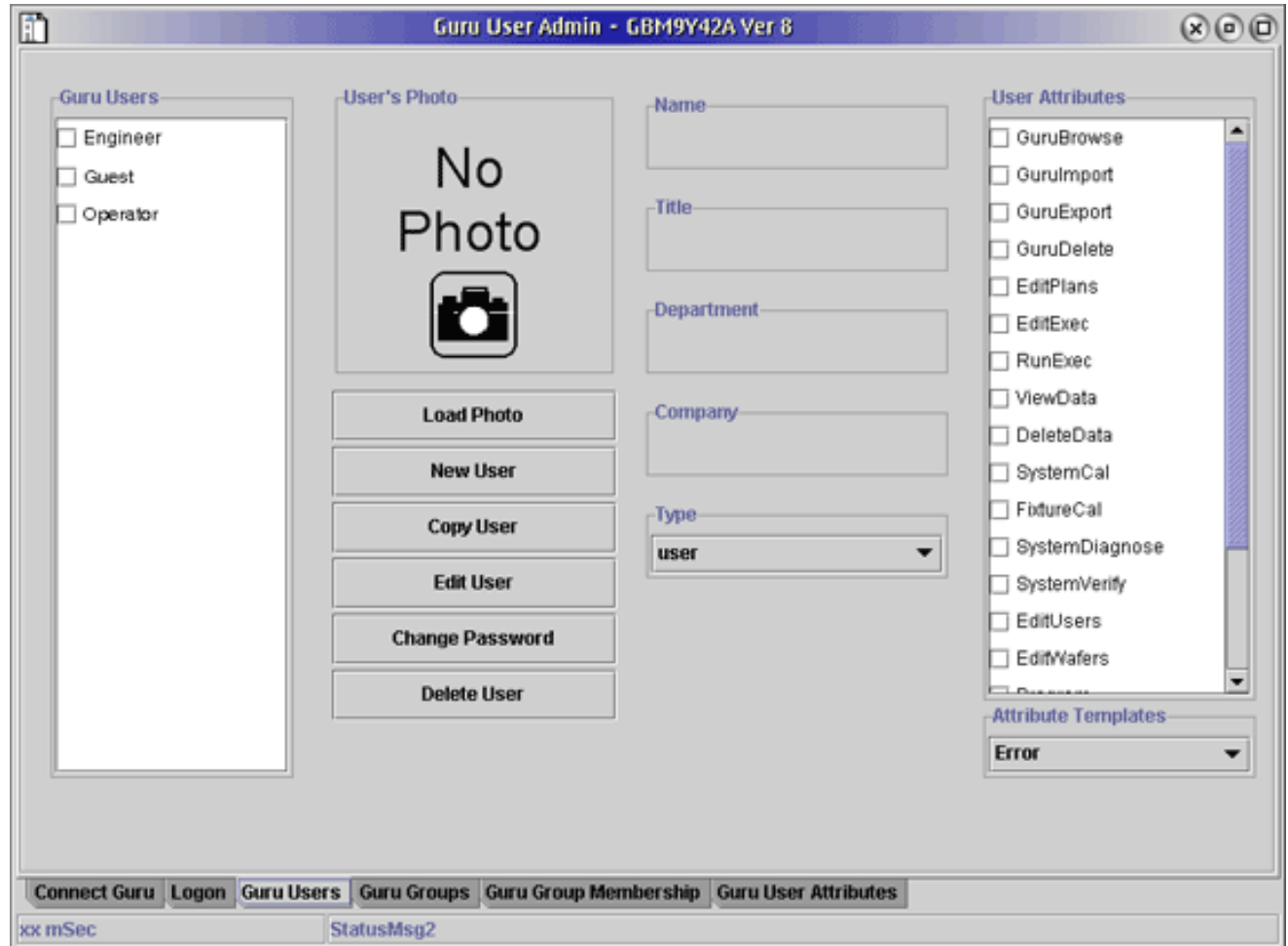
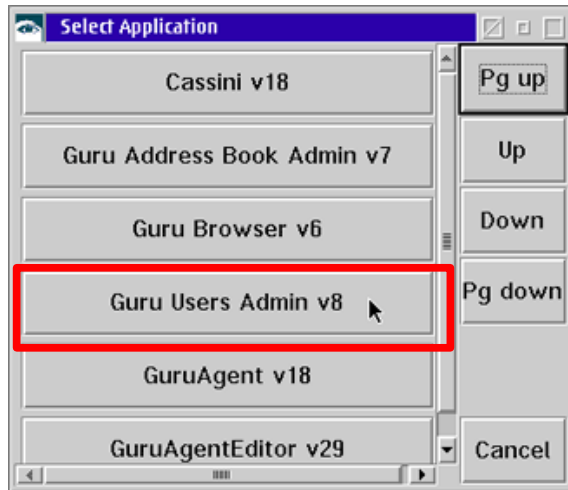
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The logo for Roos Instruments is located in the top-left corner. It consists of a blue sphere at the top, a black vertical bar with a white 'R' shape cutout in the middle, and a blue vertical bar at the bottom.

Create and Edit User Log-ons

- Users
- Groups
- Group Permissions

Guru Users Admin





Manage Users with RI Guru

- Select Guru Users Admin
- New User
 - Change Password
 - Save As or “Copy User”
- Groups
 - Create new group
 - Define members
 - Assign Permissions
- Viewing User Permissions inherited from Group Membership

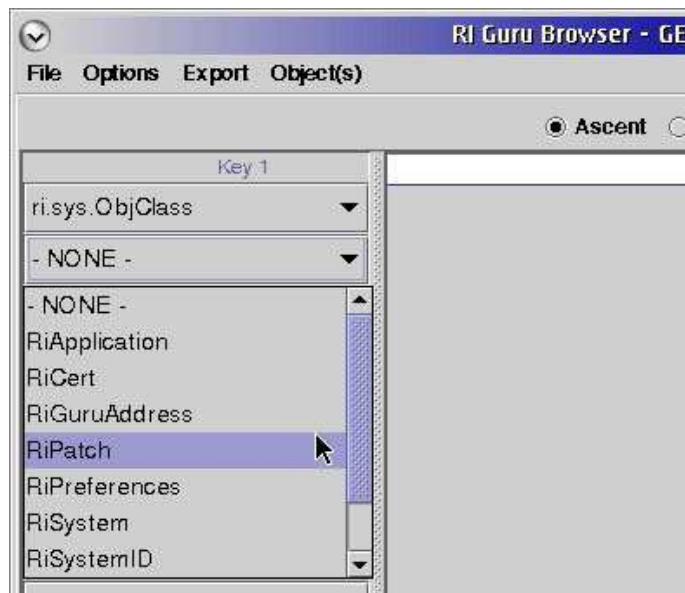


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Guru Browser

- Browse Guru Objects with Keys and Values
- Key = ri.sys.ObjClass
- Value = RiPatch

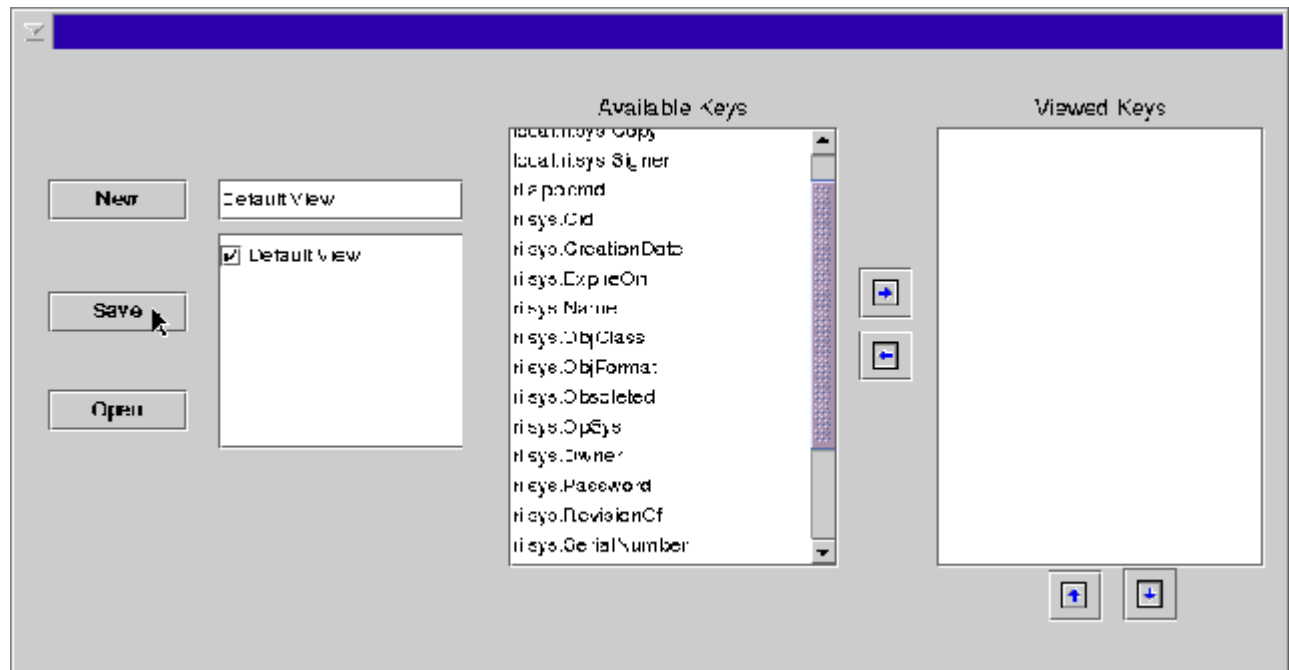
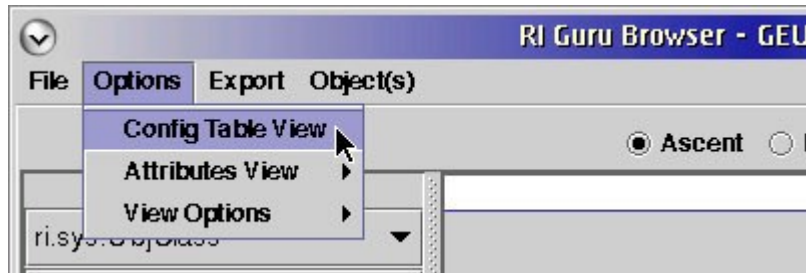


The screenshot shows the 'RI Guru Browser - GEU43Y2A VER 13' window. The 'Key 1' dropdown menu is open, displaying a list of object classes: ri.sys.ObjClass, RiPatch, Key 2, and - NONE -. The table below shows the following data:

Key 1	ri.sys Name	ri.sys.CreationDate
ri.sys.ObjClass	GF10RC2A.002	2007-01-15-18.30.29.0000
RiPatch	GF10RC2A.003	2007-01-22-15.15.52.0000
	GF10RC2A.004	2007-02-12-20.52.23.0000
Key 2	GF10RC2A.007	2007-02-13-17.20.32.0000
- NONE -	GF10RC2A.008	2007-03-09-18.23.23.0000

Guru Objects Keys & Values

- The columns of the table in the Guru Browser are selected from all available keys



Exporting Guru Objects

- Right Click, Export > send to Export List

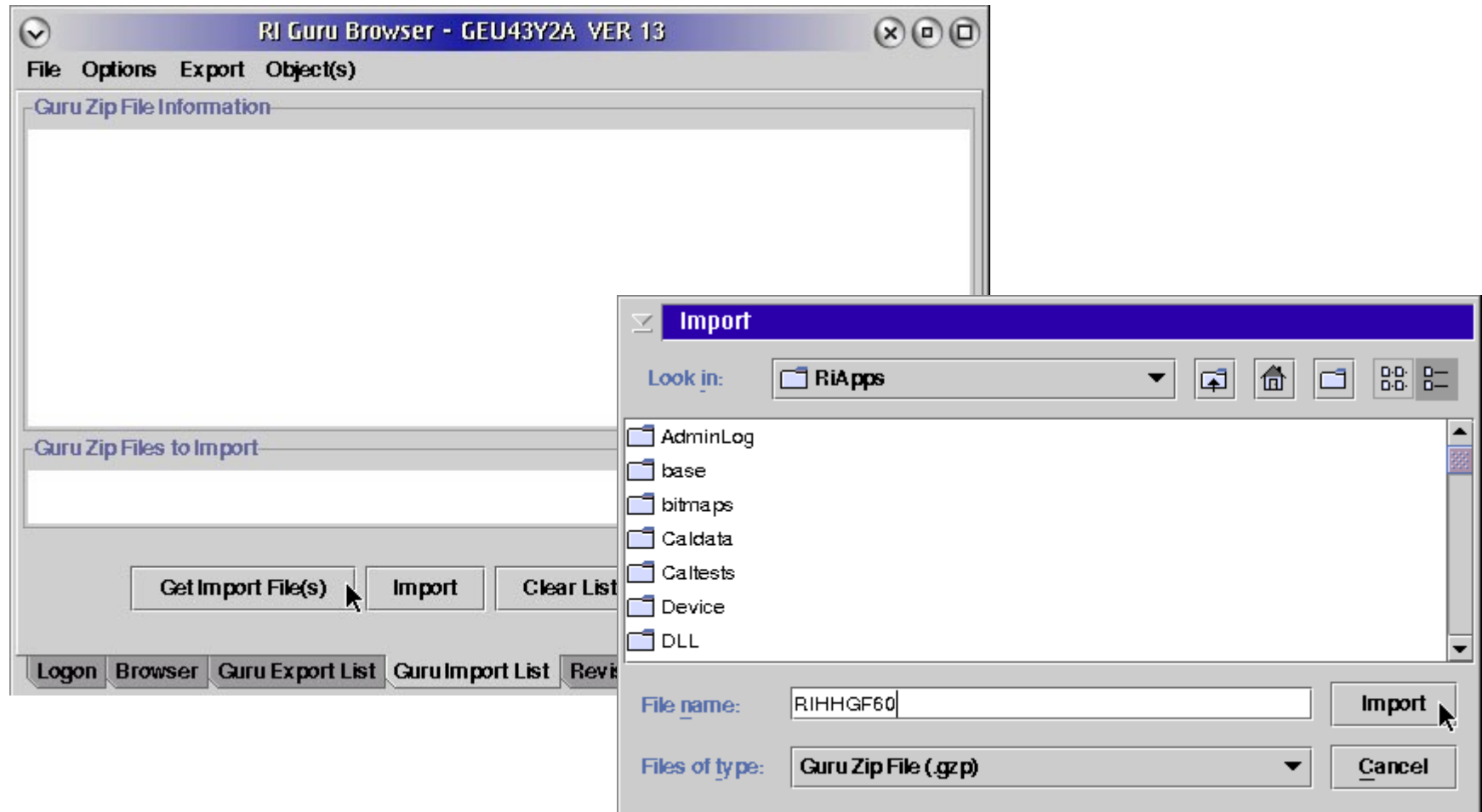
The screenshot shows the RI Guru Browser interface. The main window title is "RI Guru Browser - GEU43Y2A VER 13". The menu bar includes "File", "Options", "Export", and "Object(s)". Below the menu bar, there are radio buttons for sorting: "Ascent", "Descent", "ALL", "Last", and "A VER 13". The main area is a table with columns "ri.sys.Name" and "ri.sys.Cre". The table contains two rows: "testplan01" and "testplan02". A right-click context menu is open over the "testplan02" row, showing options: "Export", "Remove from Local", "Guru Format", and "send to Export List". The "send to Export List" option is highlighted. Below the table, there are buttons for "Export", "Clear List", and "Delete Selected". At the bottom, there are tabs for "Logon", "Browser", "Guru Export List", "Guru Import List", and "Revision History". A red arrow points from the text "Guru Export List Tab" to the "Guru Export List" tab.

ri.sys.Name	ri.sys.Cre
testplan01	2008-08-04-15:49:29
testplan02	5.3 04-15:49:29.0000

- Guru Export List Tab

Importing Guru Objects

- Guru Import List tab > Get Import File(s)



Recovering a Guru Object

- Revision History tab, Right click “Make Last RevisionOf”

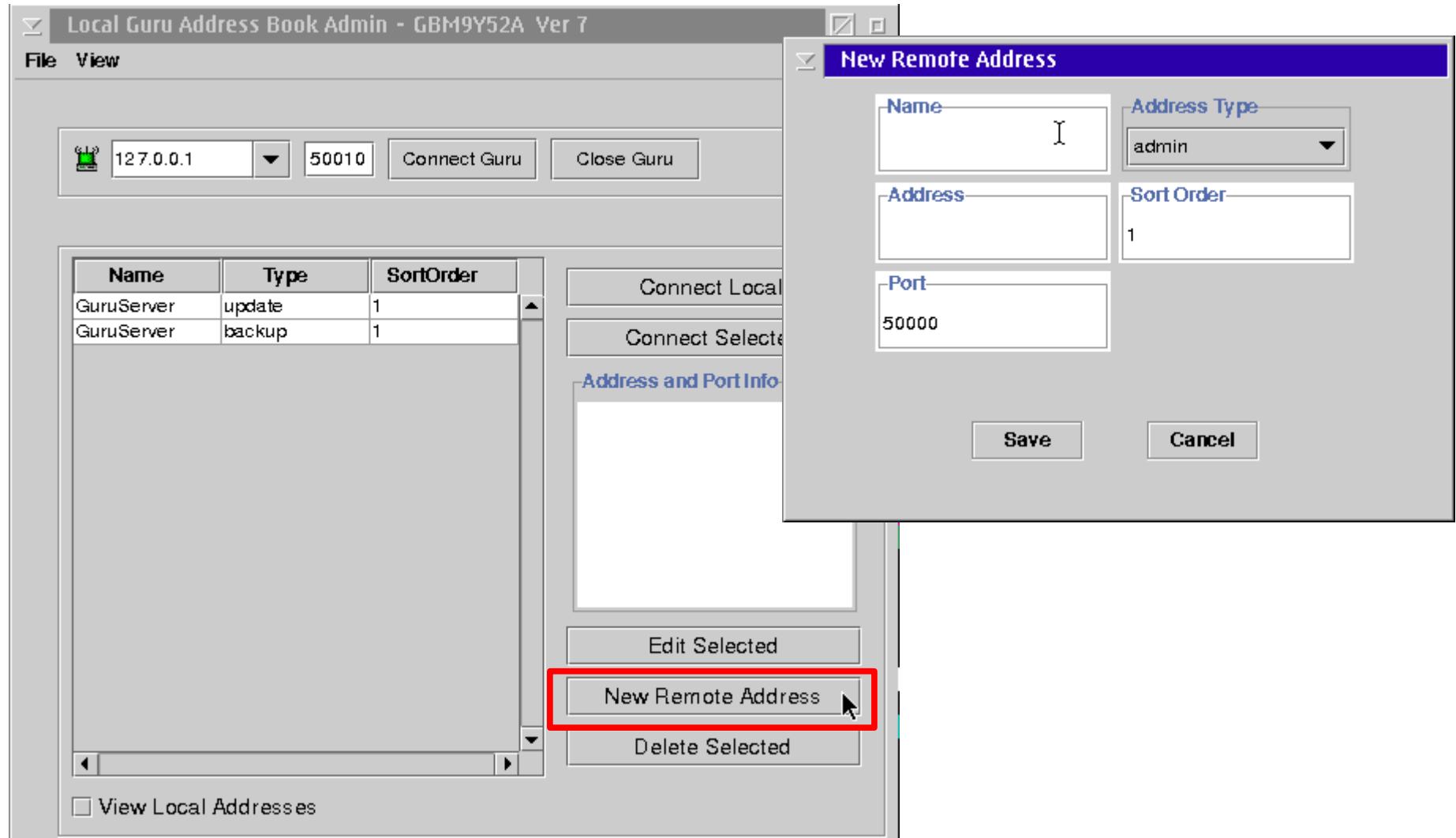
The screenshot displays the RI Guru Browser interface. The main window, titled "RI Guru Browser - GEU43Y2A VER 13", shows a table of revision history for the object "G95VOCCA95VWMC00". The table has three columns: "ri.sys.Name", "ri.sys.CreationDate", and "ri.sys.Version". The data rows are:

ri.sys.Name	ri.sys.CreationDate	ri.sys.Version
testplan01	2008-08-04-15:49:29.0000	1.2
testplan01	2008-08-04-15:48:50.0000	1.1
testplan01	2008-08-04-15:45:01.0000	1.0

A context menu is open over the third row (version 1.0), with the "Make Last RevisionOf" option selected. The interface also includes a left-hand pane with a tree view, a "Refresh Table" button, and a bottom navigation bar with tabs for "Logon", "Browser", "Guru Export List", "Guru Import List", and "Revision History". The "Revision History" tab is highlighted with a red box in the bottom navigation bar.

Guru Address Book

- Click “New Remote Address”



Guru Connections

- Select a current connection
- Edit Selected

The dialog box titled "Edit Remote Address - GuruServer" contains the following fields and controls:

- Name:** Text box containing "GuruServer".
- Address Type:** Dropdown menu with "update" selected.
- Address:** Empty text box.
- Sort Order:** Text box containing "1".
- Port:** Text box containing "50000".
- Buttons:** "Save" and "Cancel".

- Delete Selected

The dialog box titled "Delete" contains the following elements:

- Icon:** A green question mark icon.
- Text:** "Delete Address(s) from Guru?".
- Buttons:** "OK" and "Cancel".

The application window displays the following interface:

- Header:** "Local Guru Address Book Admin - GBM9Y52A Ver 7".
- File View:** "File View".
- Input Fields:** IP address "127.0.0.1" and port "50010".
- Buttons:** "Connect Guru" and "Close Guru".
- Table:**

Name	Type	SortOrder
GuruServer	update	1
GuruServer	backup	1
- Buttons:** "Connect Local", "Connect Selected", "Edit Selected", "New Remote Address", "Delete Selected".
- Address and Port Info:** "address=192.168.4.141", "port=50000".
- Checkbox:** "View Local Addresses".

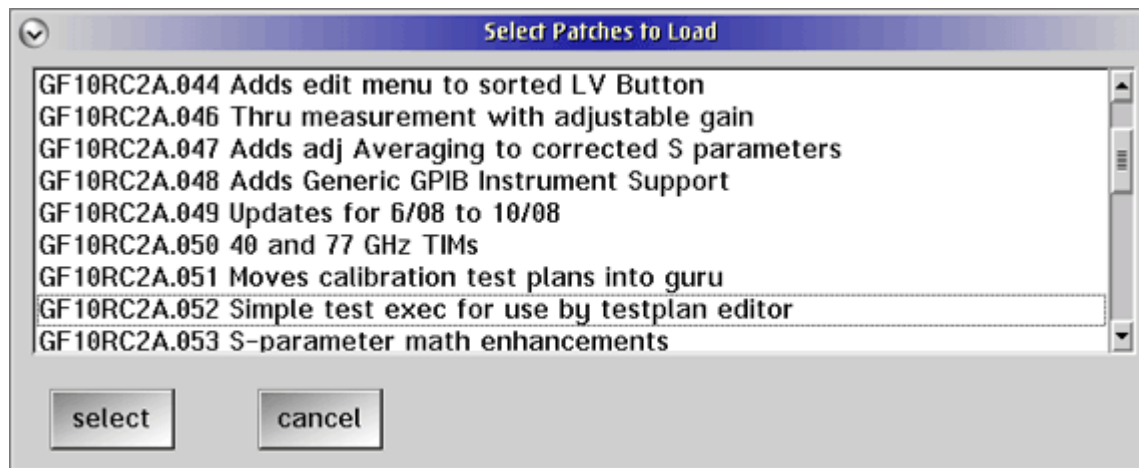


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Software Update Patches

- Updates or Patches
- Automatically update with Guru Connection
- Manual update with email and Import to Guru
- Cassini application, Select Patches for Eval
- Create Short Cut to load only required patches





Chapter Outline (Ch 2)

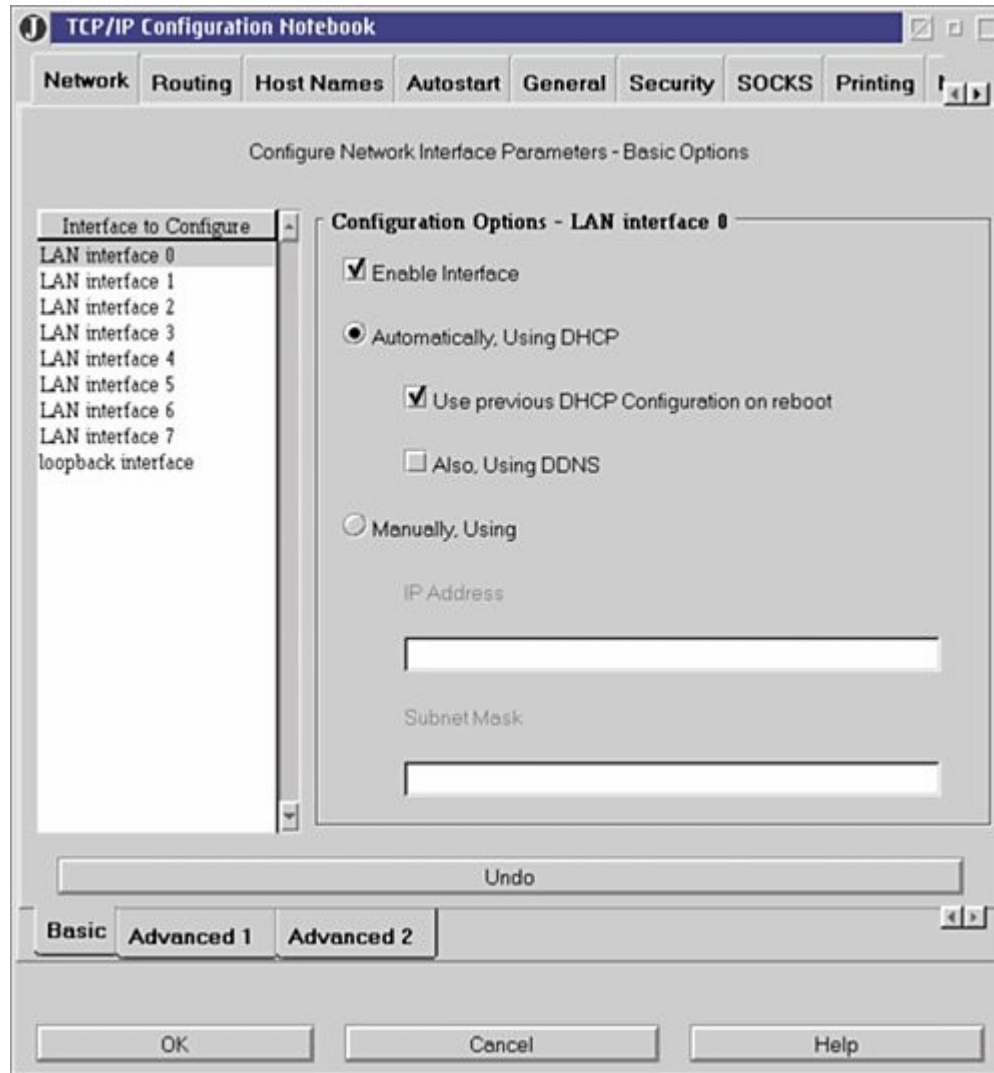
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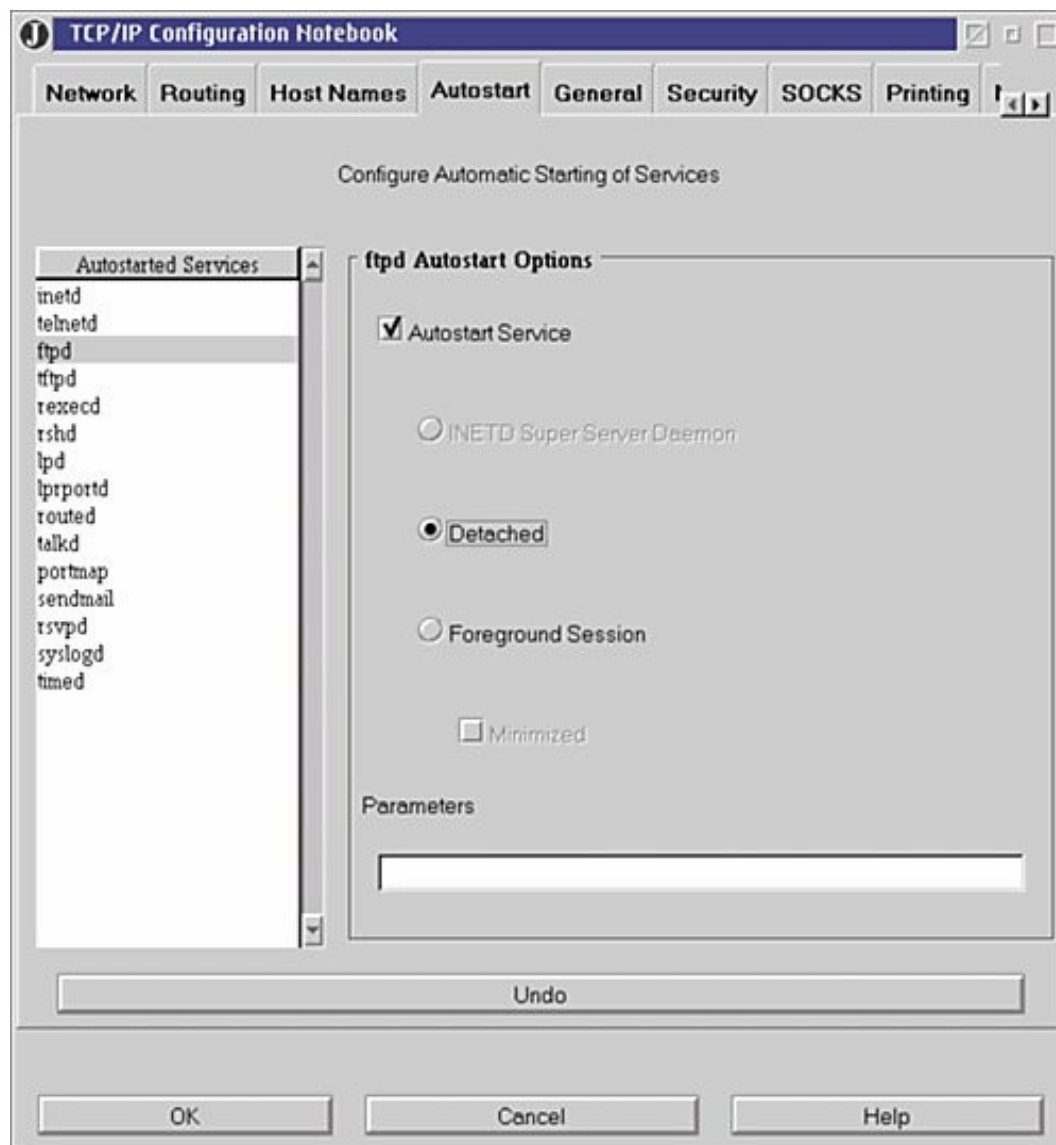
Networking: TCP/IP

- TCP/IP Settings Notebook
- IP Address, net mask
- Default Route
- Servers
- FTP Server setup

TCP/IP: IP Address, Netmask



TCP/IP: Services





FTP Capability

- Built-in eCS FTP Applications (Graphical or Command line) to transfer files via FTP
- FTP Daemon must be set to Autostart to answer FTP connections
- TCP/IP Security must be set for at least 1 user
- User must have a Password (min 5 characters)
- Available drives or files for FTP need to be set
- Must flag FTP Enabled



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Guru System Restore, Sync, Log



- Logoff
- Shutdown
- Restore
- Synchronize
- Message
- Cancel



Basic Backup Strategy

- Automatic System Backup with Guru Server
- Easy restore with USB Guru Key + New System Controller
- Recover previous Guru object revision



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Guru Agents

- Guru Agent copies Test Data results automatically

The image shows two overlapping dialog boxes from the 'Copy Agent Filter' application. The background dialog, 'Copy Agent Filter: <name>', has a menu bar with 'File', 'Edit', 'Settings', 'Test', and 'Help'. It is divided into several sections: 'Sources' with a 'source1' text field and a 'Match On' field; two checked checkboxes for 'Ignore Copied Files' and 'Ignore Invalid Files'; a 'Connection' section with a 'Type' dropdown set to 'guru', a 'Location' field, and a 'Proxy Info' field; and an 'On Successful Copy:' section with a 'Copied Files Tag (local key=value):' field containing 'local.ri.sys.GA_Copied=true'. The foreground dialog, 'Choose a Guru Agent File (Name)', features a list box on the left containing 'testAgent'. To its right is a table with the following data:

ri.sys Name	ri.sys Title	ri.sys ObjClass	ri.sys Type
testAgent:	testAgent	RiAutoStart	normal

Below the table is a 'Selection' field containing the text: 'ri.sys.ObjClass=ri.AutoStart,ri.sys.ObjFormat=off,ri.sys.Name=testAgent'. At the bottom of the dialog are three buttons: 'OK', 'Cancel', and 'Select Type'.

Guru Agents, Transfer Test Data

- Execution
- Appearance
- Message/Errors

The Execution dialog box has a title bar with a collapse icon and the text "Execution". It contains three sections: "Type of Guru Agent" with radio buttons for "Regular Copy Agent" and "STDF Copy Agent" (selected); "Run Interval" with input fields for "Days: 0", "Hrs: 0", "Mins: 10", and "Secs: 0"; and "Autorun setting (i.e. Auto Run Type)" with radio buttons for "Auto" (selected), "Startup", and "Manual". At the bottom are "Ok" and "Cancel" buttons.

The Appearance dialog box has a title bar with a collapse icon and the text "Appearance". It contains three sections: "Visible Window" with checkboxes for "Visible" (checked) and "AutoClose"; "Screen Location" with input fields for "X: 50" and "Y: 50"; and "Screen Size" with input fields for "Width: 600" and "Height: 400". At the bottom are "Ok" and "Cancel" buttons.

The Messages/Errors dialog box has a title bar with a collapse icon and the text "Messages/Errors". It contains a "Logging Level" dropdown menu set to "1: Log Errors Only". At the bottom are "Ok" and "Cancel" buttons.



Guru Agents, Transfer Test Data

- Source Settings
 - Match On
 - Location
 - Proxy Info
 - Copied Files Tag, Ignore Copied Files
- Destination Settings
 - Type
 - Location
 - Rename Template



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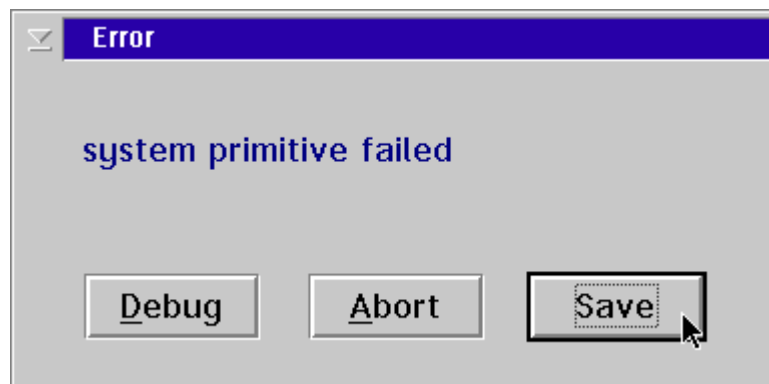


System Software Errors & Recovery

- Execution Halt
- System is not responding
- System is not responding to CTRL + Break
- eCS is not responding to CTRL+ESC
- Requesting Support

Errors that Halt Progress

- System software Error display
- Click “Save” to build vRtError.log file
- located in D:\RiApps\GuruApps\GF10RC2A
- Perform a System “Reset”





Software Recovery – First Attempt

- System is not responding
- Press and hold CTRL key, press Break key
- RI System will halt and display an Error dialog box
- Click **Abort** to close the Error dialog box
- RI Message Window, Select **System**, and **Reset**
- Send vRtError.log file to support@roos.com
- Select System, then Quit, Yes to close RI System Software (and restart)



Software Recovery – Second Try

- System is not responding to CTRL + Break
- Press & Hold CTRL Key and press ESC key
- eCS will display the Window List (it may take several seconds)
- Right click on “RI RFIC Test Environment” and select Close
- Select Yest to close the RI System Software
- Restart RI System Software



Software Recovery – Last Choice

- eCS System is not responding to CTRL + ESC
- Press and hold CTRL + ALT + DELETE Key
- This will REBOOT the system controller
- Restart the system controller software
note: The system always saves to disk each part's test data after each test run has been completed.

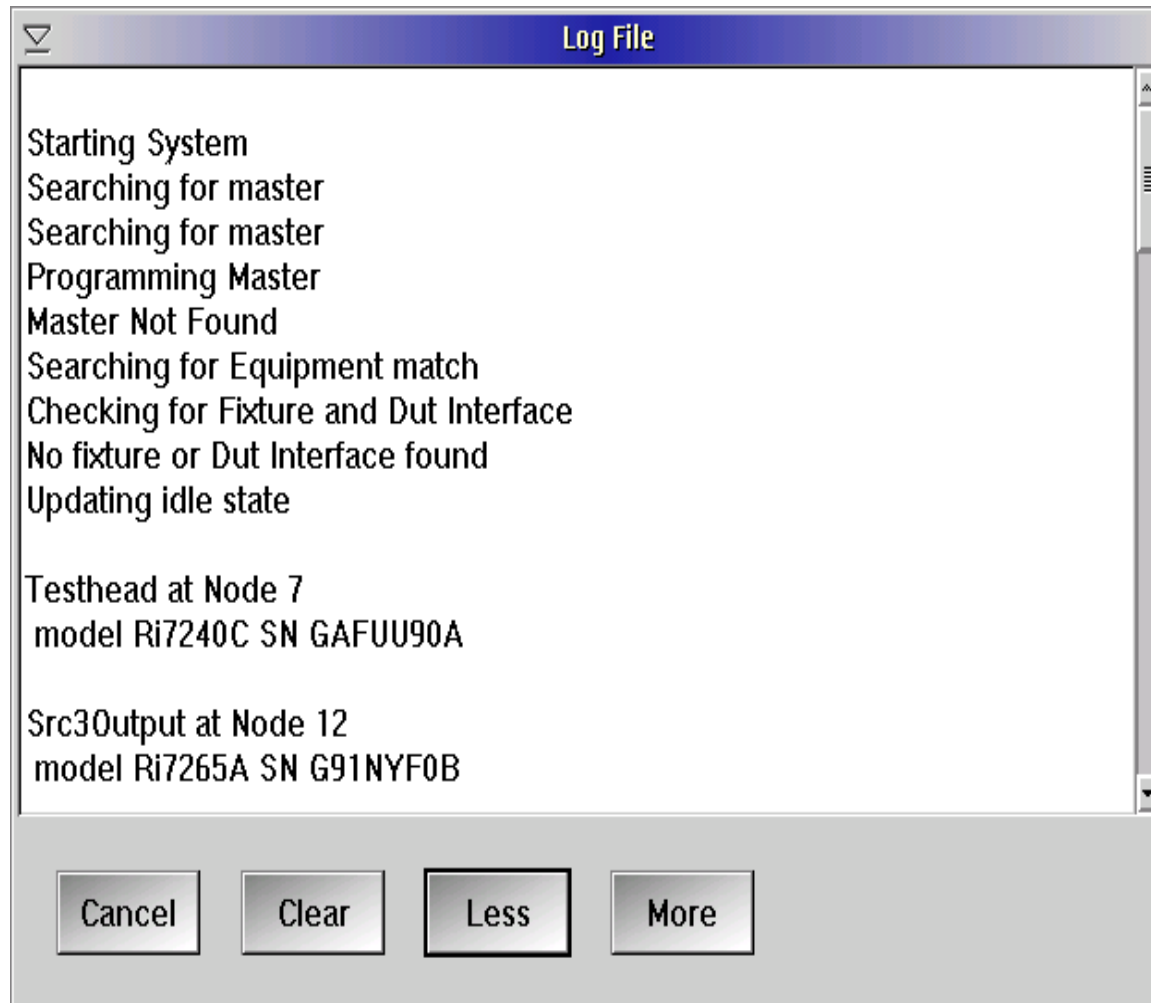


Documenting Software Issues

- Description of issue found
- Procedure to duplicate the issue
- Text copies of any error messages and vRtError.log

Message Pop-up Window

- The Message window appears as “Log File”



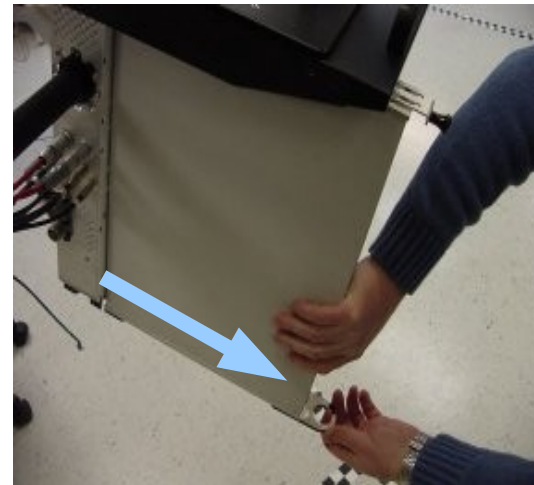


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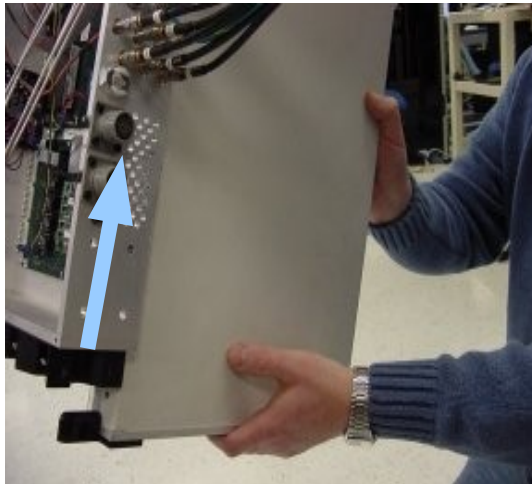
Cassini TIM Removal

- Cassini Test Instrument Module (TIM)
- Can be removed with power on
- Remove by pulling release handles



Cassini TIM Insertion

- Can be inserted while the system is running
- Align module in Test Head, Push up until you hear a click, then push in top handle to power on the module





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Preventive Maintenance Schedule

- Daily
 - Visual Inspection
- Monthly
 - Visual + Verify Hardware Calibrations
- Annually
 - Preventive Maintenance
 - Diagnose Errors
 - Full System Calibration

The logo for Roos Instruments, featuring a blue sphere at the top, a black vertical bar with a white 'R' shape, and a blue vertical bar below.

Daily Preventive Maintenance

- Visually inspect the Test Socket, Load Board, and connectors
- Visually inspect all of the RF Connectors around the Test Fixture
- Visually inspect the Docking Hardware
- Run known good and bad parts



Monthly Preventive Maintenance

- Perform Daily PM
- Visually inspect all the RF connectors around the Test Head Pogo Ring
- Visually inspect RIFL cable to Handler Pod and Handler interface
- Perform the “System Verify Procedure”

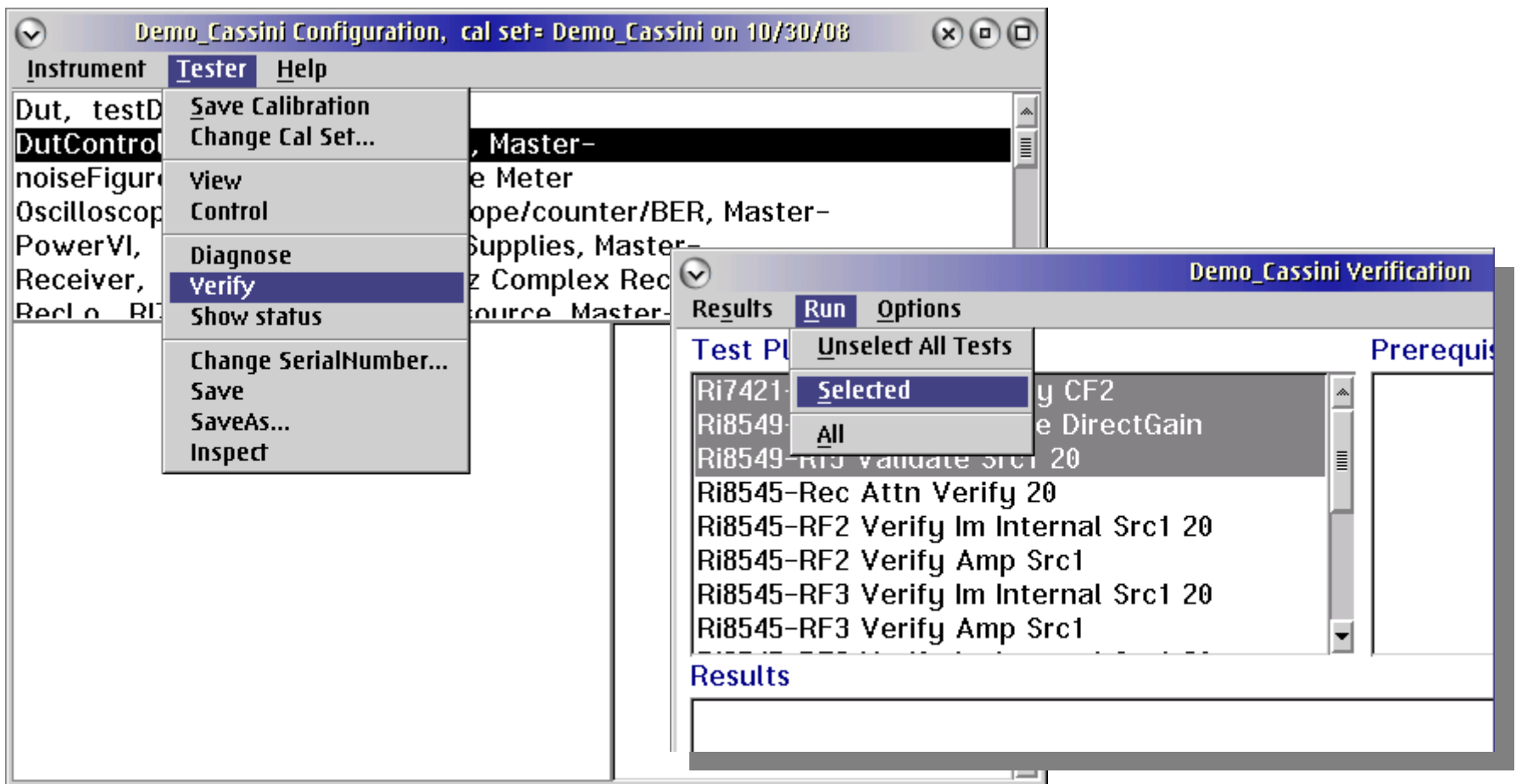


Annual Preventative Maintenance and Calibration

- Carefully inspect all the RF connectors around the test head Pogo Ring
- Inspect all the cable connections and check all SMA cable connections for tightness
- Clean the air filters on the back of all the RF Sources
- Perform the Test Head Fixture Cam Assembly PM
- Perform the “System Diagnostic Procedure”
- Perform the “System Calibration Procedure”

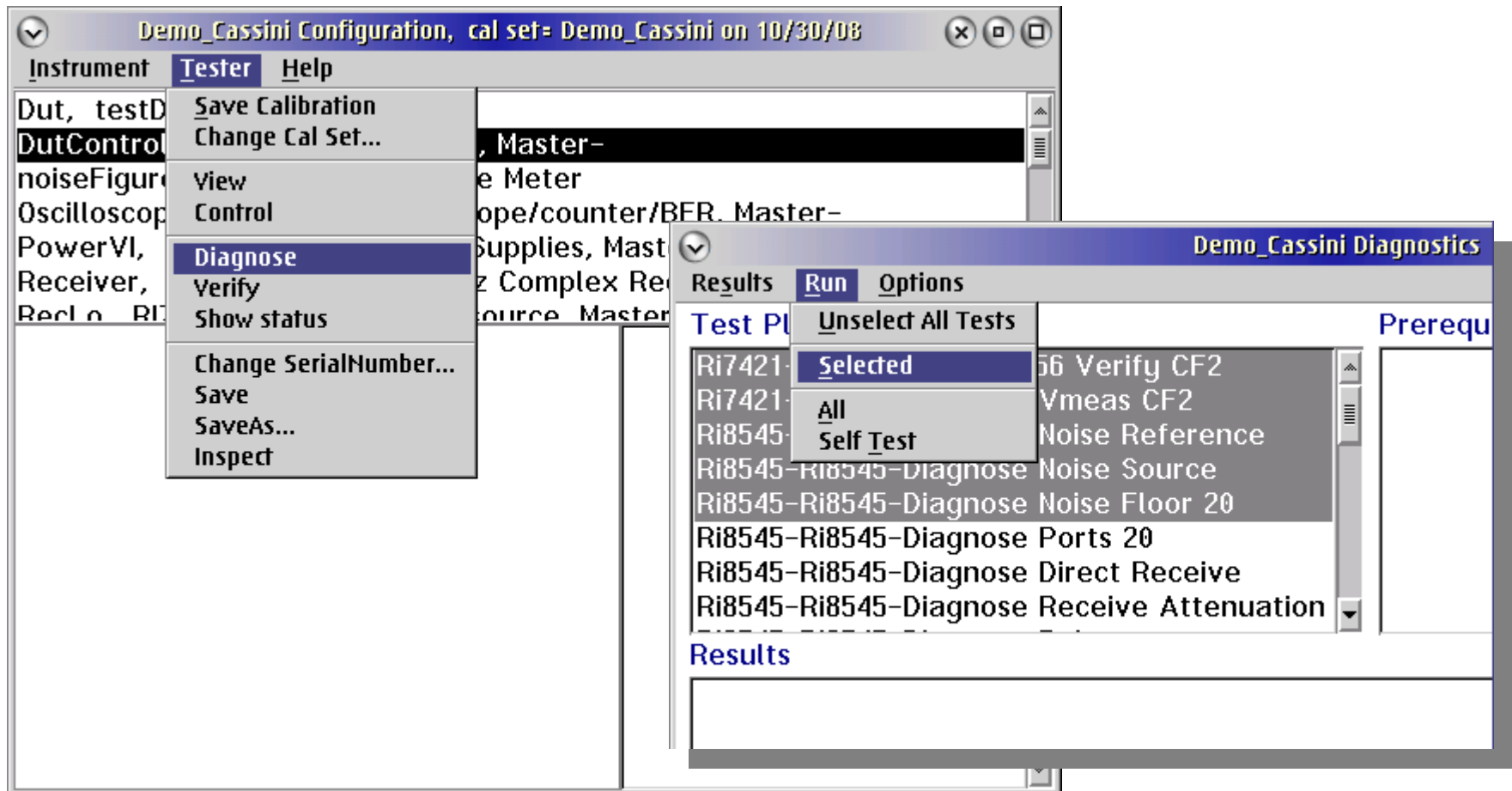
Verify Hardware Calibration

- Tester > Verify with selected Instrument
- Select a few Test Plans, Run > Selected



Diagnose Hardware Calibration

- Tester > Diagnose with instrument selected
- Select a few Test Plans, Run > Selected



Restoring Fixture Calibration Data

- Use Guru Browser to restore Fixture Cal. Data
- ObjClass = RiFixtureCal
- Revision History, Right Mouse click, Make Last RevisionOf

The screenshot displays the Guru Browser interface. The main window shows a tree view with 'ri.sys.ObjClass' set to 'RiFixtureCal'. A secondary window titled 'Revision History' is open, showing a table of revisions. The table has columns for 'ri.sys.CreationDate' and 'ri.sys.Version'. The most recent revision is selected, and a context menu is open over it, with 'Make Last RevisionOf' highlighted.

...	ri.sys.CreationDate	ri.sys.Version
G...	2007-07-10-16:40:53.0000	
G...	2008-08-07-10:49:48.0000	
G...	2008-08-07-10:50:18.0000	

Context menu options: Remove from Local, Make Last RevisionOf



Calibration Procedure

- Setup
- Active Calibration Instruments
 - Calibration Fixture
 - Calibration Kit (OSL Standards, Noise Source)
 - Power Meter
- Cassini > System > Instrument > Calibration > Calibrate
- Select and operate in order, few at a time
- Follow operator prompts
- If Validation fails, run Diagnostics and fix problem before continuing



Chapter Review

- Overview of Guru, Applications
- Guru Log-on, User Privileges
- Guru Browser to Manage Guru Objects
- Guru Address Book, Update Guru Connections
- Software Updates and Patches
- System Networking and Data Logging
- Guru System Restore, Sync, and Log
- System Software Backups
- Guru Agents, Transferring Test Data
- System Software Errors & Recovery
- Monitor Error and Warning Messages
- Maintenance (Daily, Monthly, Annual PMC)
- Verify and Diagnose Hardware Calibration
- Exchanging Cassini Modules
- Restoring Fixture Calibration Data
- Complete System Calibration (Reference)



Next Chapter Preview

- Basic Measurements
- Physical vs Virtual Instruments
- Scattering (S) Parameters
- Conversion Gain/Loss Measurements
- RF Power Measurements
- Spectral Purity (Harmonics) Measurements
- Intermod Distortion Measurements
- Digitally Modulated RF Signal Measurements
- Error Vector Magnitude (EVM)
- Noise Figure Measurements

Questions?



Any Questions from this Chapter?