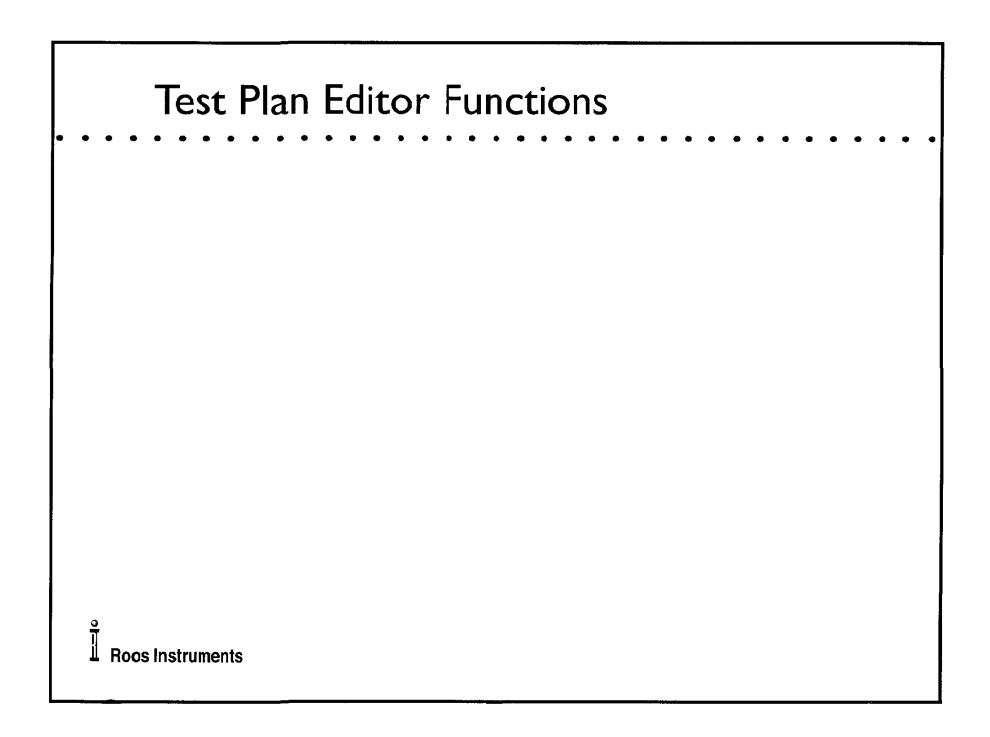
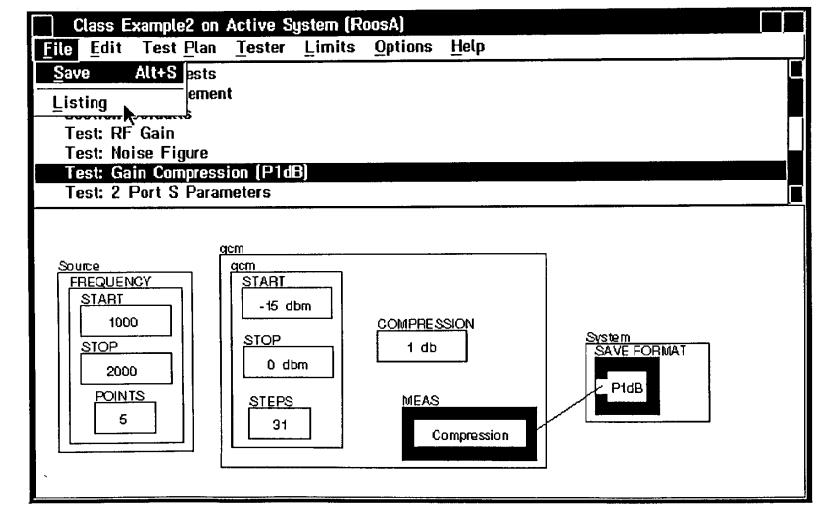


Roos Instruments



Displaying a List of the Tests & Test States

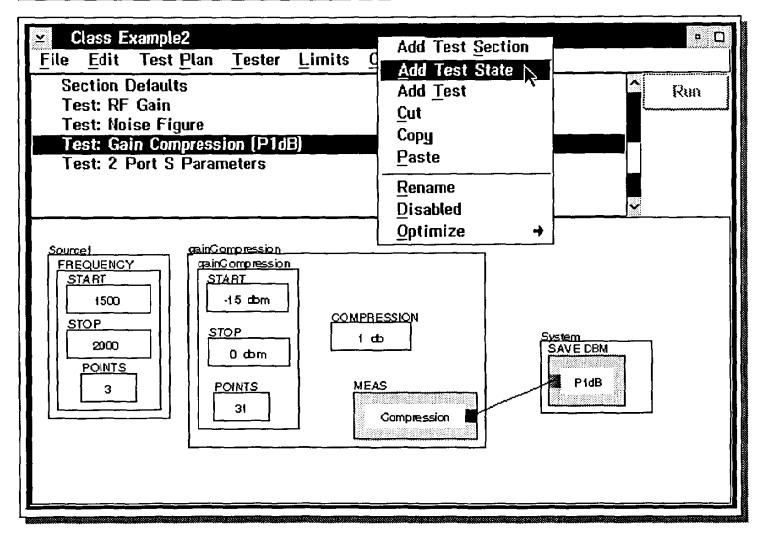


1 Roos Instruments

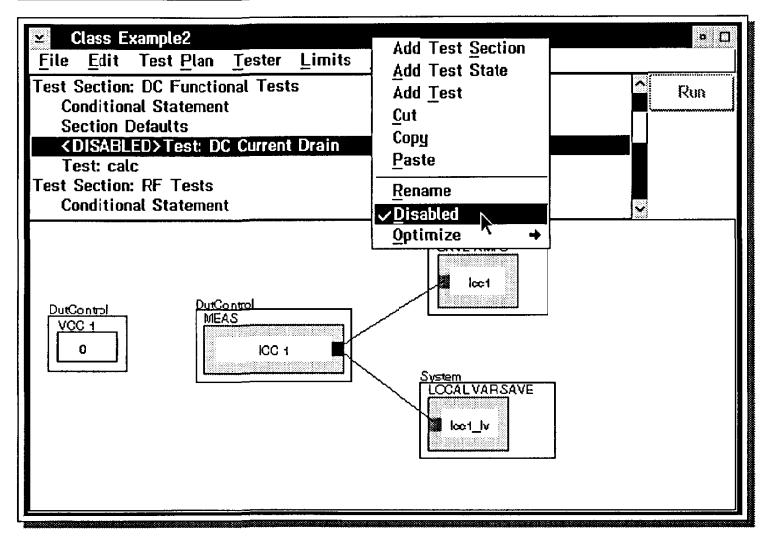
Test Plan Listing

Test Plan: Class Example2		06-23-94	ĺ
Test System: RoosA DUT: all duts			
Limit File: None			ľ
DISCONNECT SETTINGS			
Static Settings:			
DutCtl Vcc1: 0.0	DutCtl Vcc2: 0.0		
DutCtl Vcc3: 0.0	Source RfState: off		
1. TEST SECTION: DC Functional Tests			
1.1. TEST PANEL: DC Current Drain			
Static Settings:			
Fixture InputPort: 1 System OutFreqOffset: D.D TestHead RecMode: int	Fixture OutputPort: 2 System OutFreqScale: 1.0 TestHead SrcMode: int		
Measurements: Icc1			

Adding a Test State Panel to the Test Plan



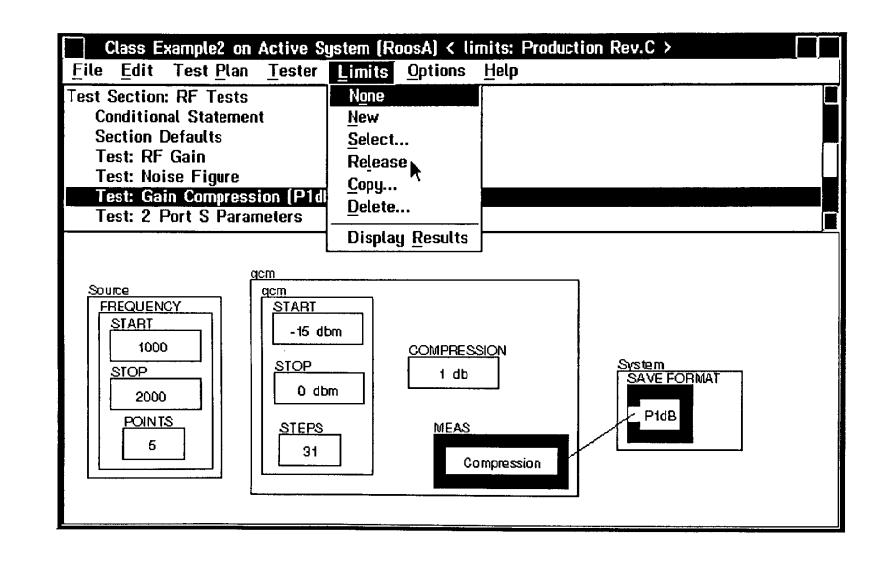
Enabling or Disabling a Test Panel or Test Section



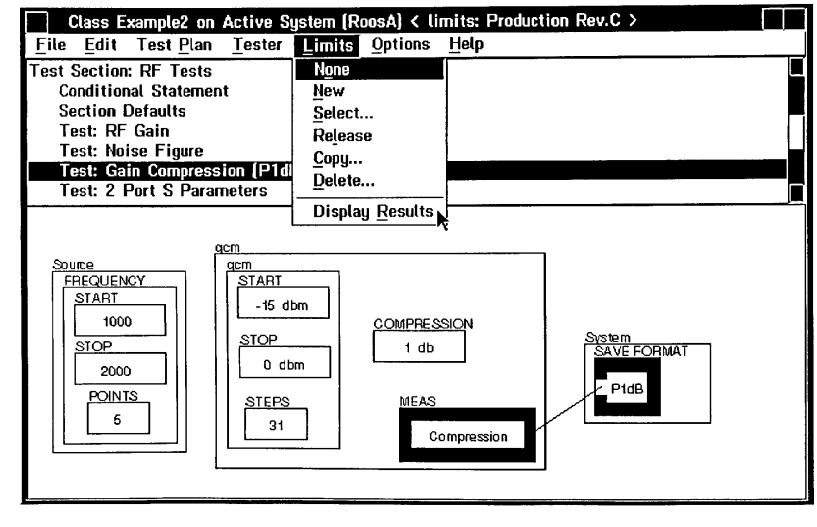
Enable or Disable the Test Plan Optimization in a Test Section or the Entire Test Plan

🛩 Class Example2		o 🗋
<u>File</u> Edit Test Plan Tes	ster Limits Options Help	
Test Add Test Section		Run
Gl <u>A</u> dd Test State		
Di Add <u>T</u> est Co _{Cut}		
	Tests	
Copy		
Cd <u>P</u> aste Se		
<u> </u>		×
Disabled		
<u>O</u> ptimize →	Test Plan 🔸 On 🔥	
l i	Test Section → Off	
		1
1		i i i
1		
1		
1		
1		
1		

Releasing a Limits File



Displaying the Test Results vs Test Limits

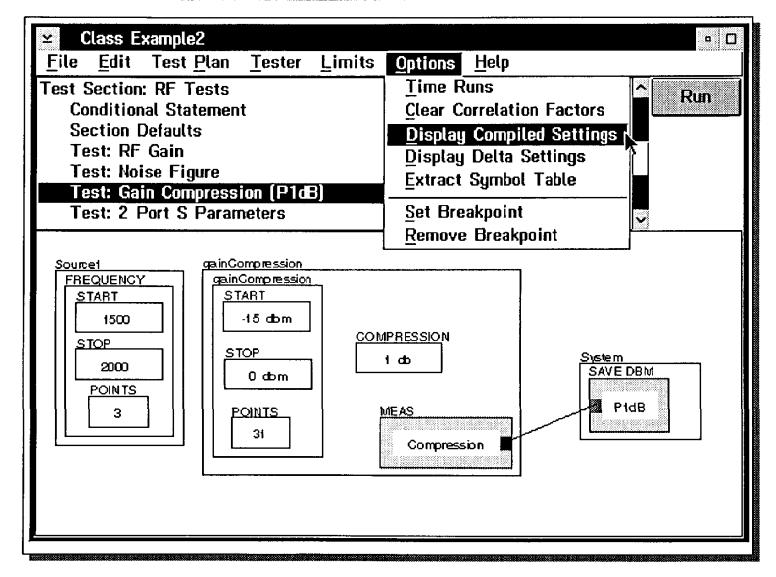


Roos Instruments

Test Results vs Test Limits

Limit File Re Test	Result	Data
 lcc1	 - No Limits -	1.28255380
Gain	Fail	-3.92605428; 2.22233995; 1.09951057; -1.4
ain Sigma	- No Limits -	0.0; 0.0; 0.0; 0.0; 0.0; 0.0; 0.0; 0.0;
F	- No Limits -	20.0; 20.0; 20.0; 20.0; 20.0; 20.0
^o 1dB	- No Limits -	1.00105313; 1.03584652; 1.05475982; 1.02
S_Par	- No Limits -	0.0; 0.0; 0.0; 0.0; 0.0; 0.0; 0.0; 0.0;

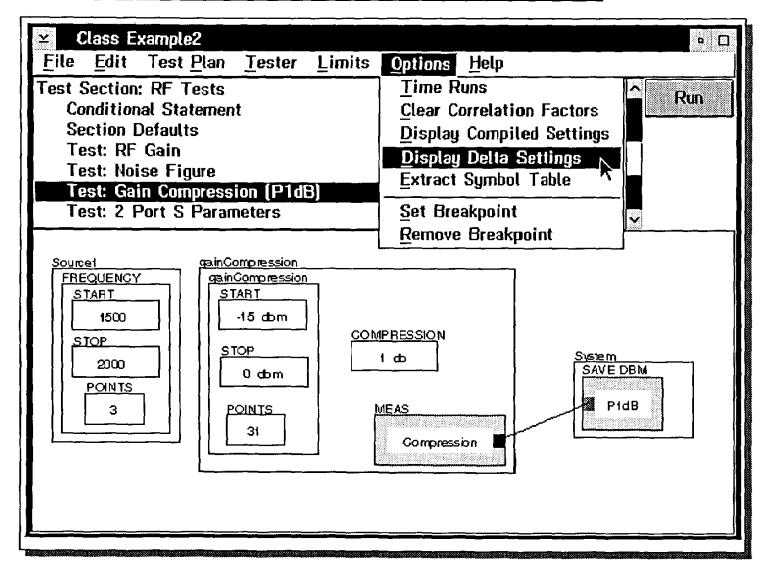
Display the Test Plan's Compiled Settings



Inspecting the Compiled Settings

Inspecting Test System Settings	
Help	
Source1	
AlcNode> fast	
Band> 0	
Freq> 1500.0	
Frequency> 1500.0	
Power> -15.0	
PowerCorrection> 0.6	
RfState> on	
SrcPower> -14.4	
Source2	
AlcMode> fast	
Band> 0	
Freq> 999.0	
Frequency> 999.0	
Power> 0.0	
PowerCorrection> 0.3996	
RfState> off	
SrcPower> 0.3996	
Src12Output	
IntermodFreqSpacing> 0.0	
IntermodPowerSpacing> 0.0	
OutputModule1> off	
Autoutkladula? Naff	M

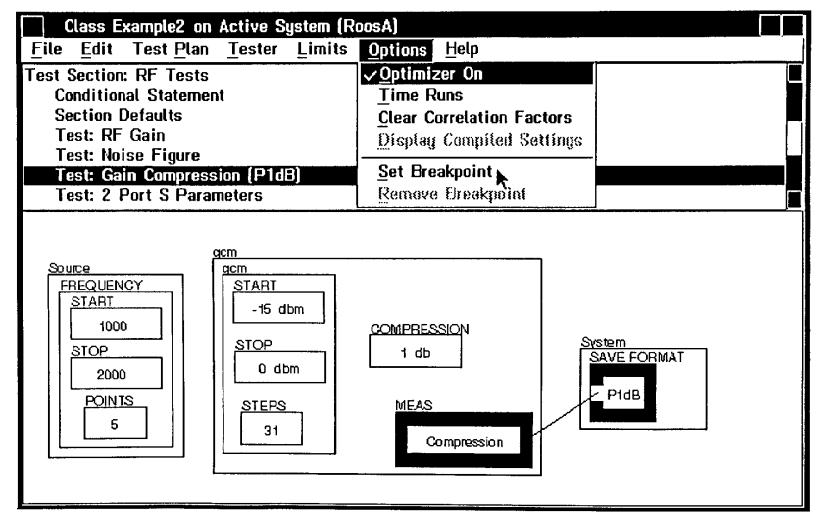
Display the Change in the Tester Settings for each Measurement



Inspecting the Setting Changes for each Measurement

Delta Settings for TestPlan: Class Test Plan Settings	gainCompression	. • ; C
Disconnect Settings	Start> - 15.0	c.
lection: DC Functional Tests	Steps> 31	
1. DC Current Drain (lcc1)	Receiver	1
ection: RF Tests	Frequency> 1500.0	r
1. 2 Port S Parameters (TwoPort	Receiverl o	
2. 2 Port S Parameters (TwoPort	Freg> 1521.4	
3. 2 Port S Parameters (TwoPort	Frequency> 1521.4	
4. 2 Port S Parameters (TwoPort	Source1	
5. 2 Port S Parameters (TwoPort	Freg> 1500.0	
6. Gain Compression (P1dB) (Fak	Frequency> 1500.0	
7. 2 Port S Parameters (TwoPort	Power> -15.0	ŀ
8. Noise Figure (Rms)	PowerCorrection> 0.6	
9. Noise Figure (Rms)	SrcPower> -14.4	
10. RF Gain (TwoPortAdjAvg)	Testhead	
11. RF Gain (TwoPortAdjAvg)	SwitchReg> RiBitArray(B8 F0 2F 0 D 2 88 0 80 14 0 20 0)	
12. RF Gain (TwoPortAdjAvg)		ļ
13. RF Gain (TwoPortAdjAvg)		
14. 2 Port S Parameters (TwoPo		
15. Naise Figure (Rms)		
16. Naise Figure (Rms)		
17. RF Gain (TwoPortAdjAvg)		
18. RF Gain (TwoPortAdjAvg)		
19. RF Gain (TwoPortAdjAvg)		
20. RF Gain (TwoPortAdjAvg)		
21. 2 Port S Parameters (TwoPo		
22. Naise Figure (Rms)		
23. Naise Figure (Rms)		
24. RF Gain (TwoPortAdjAvg) 25. RF Gain (TwoPortAdjAvg)		322

Setting a Break Point



PRoos Instruments

Break Point - Looking at Control Panels

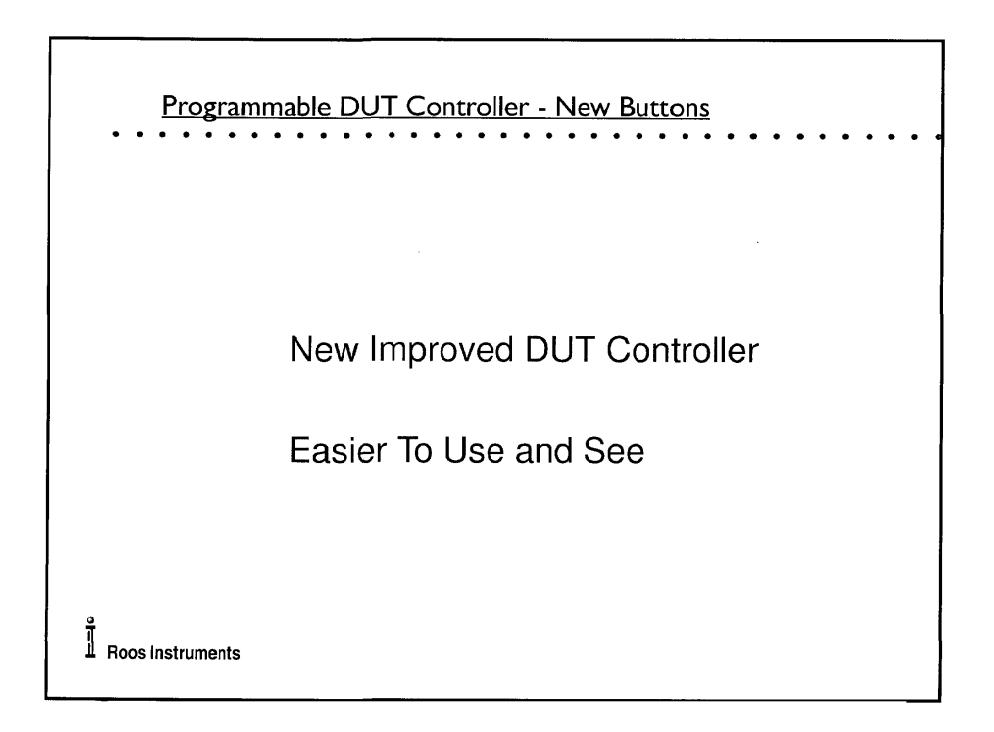


Breakpoin	t	
	FakeMeas	
Next	Abort	Control
		N

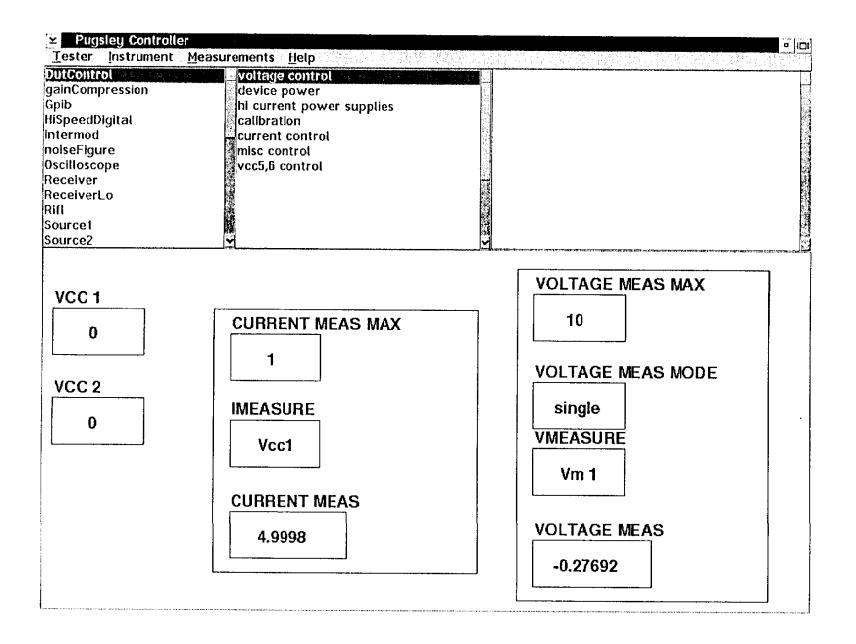
Manual Control of the DUT Controller

RoosA (Controller	· · · · · · · · · · · · · · · · · · ·	
<u>T</u> ester <u>I</u> ns	trument <u>H</u> elp		
DownConvert		▲ control panel	
DutCtl		waveform contro	L^
DutLo			
Fixture			
gcm			
Gpib Handler			
	אכא		AS RANGE VOLTAGE MEAS MODE
<u>yaxı jacı</u>		0 10 volt STROBE 1 V MELS1	single
0 503		OFF S94	VMEASIN S-54
VCC 2 10C2 0		STROBE 2 VMEAS2	V MEASON 5.03
	OFF		V MEASon 5.03
0 51.1		DATA YMEASH	V MEASHN
	÷∓(≎	0FF 5.43	5.03
POWERY 1 POWE			
	123 ENT MEAS RANGE		
0 1 am	1		

1 Roos Instruments

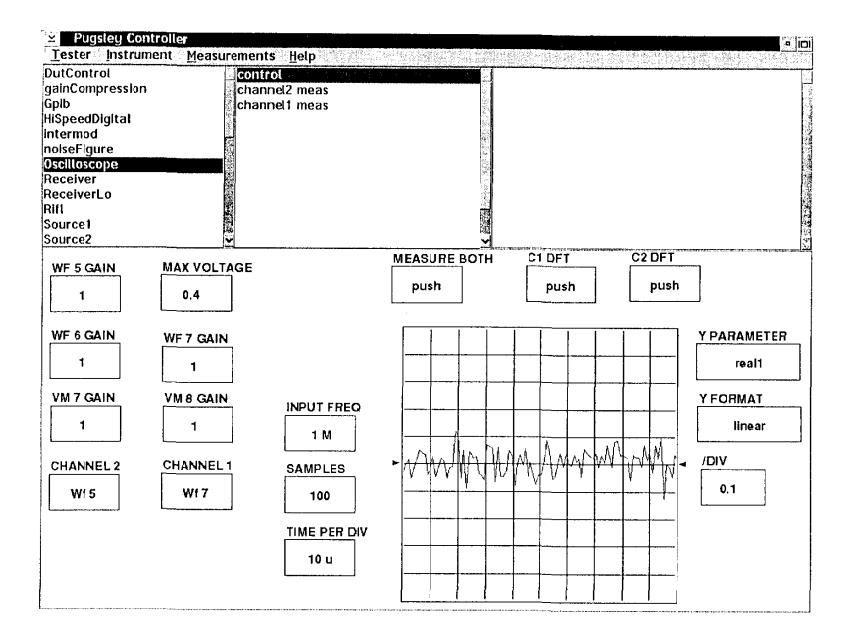


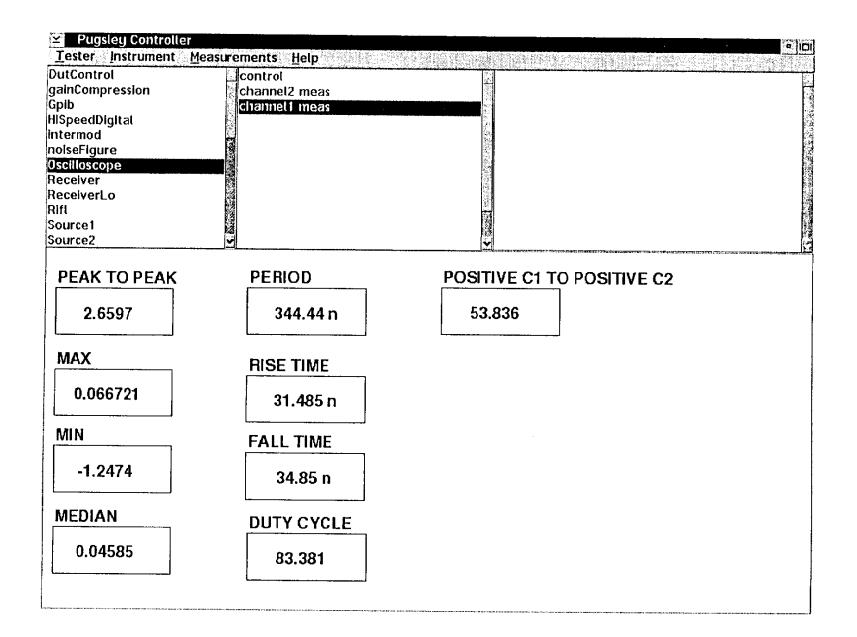
DDICODITCI gainCompression Gpib HiSpeedDigital intermod noiseFigure Oscilloscope Receiver ReceiverLo Rifi Source1 Source2	voltage control device power hl current power calibration current control misc control vcc5,6 control	supplies
POWER V 1 0	POWER I 1 0	CURRENT MEAS MAX 1 IMEASURE
POWER V 2 0	POWER I 2 0	Vcc1 CURRENT MEAS
POWER V 3	POWER I 3 0	4.9998

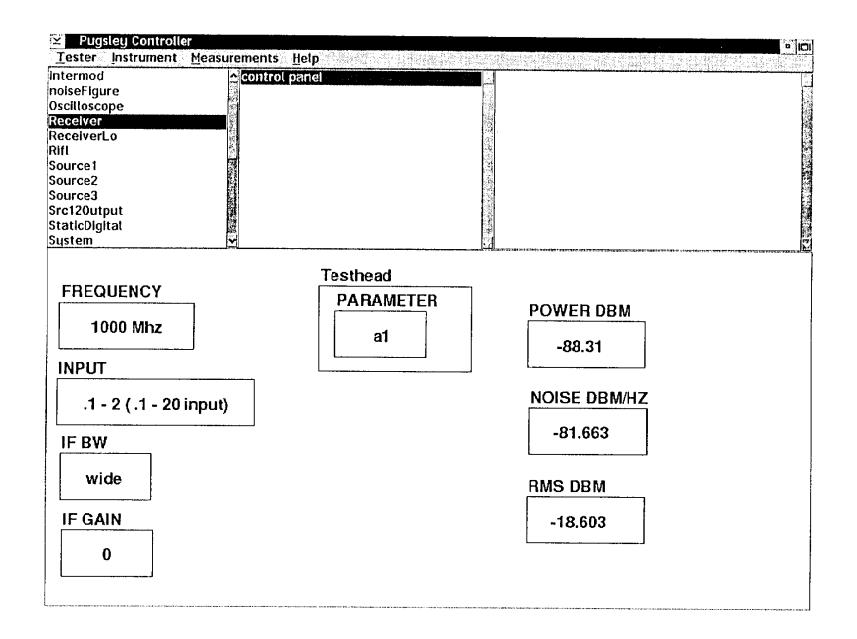


DutControl gainCompression Gpib HiSpeedDigital intermod noiseFigure Oscilloscope Receiver ReceiverLo Rift Source 1 Source 2	voltage control device power hi current power supplies calibration current control misc control vcc5,6 control		
DEVICE POWER 1	DEVICE POWER 5	VCC 3	CURRENT MEAS MAX
DEVICE POWER 2 open	DEVICE POWER 6 open	VCC 4	1 IMEASURE Vcc1
DEVICE POWER 3 open	DEVICE POWER 7 open		CURRENT MEAS
DEVICE POWER 4 open	DEVICE POWER 8 open		

ItControl voltage control InCompression device power bib hi current power suppl SpeedDigital calibration termod current control biseFlaure misc control	lies
bib hi current power suppl SpeedDigital calibration termod current control	lies
SpeedDigital calibration termod current control	
termod	
viseFigure misc control	
cilloscope vcc5,6 control	
celver	
eceiverLo	
fl	
purcei	
purce2	
VCC1 MODE ICC 1	
voltage 0	
VCC 2 MODE ICC 2	CURRENT MEAS MAX
valtaga	
voltage 0	
	IMEASURE
VCC 3 MODE ICC 3	
	Vcc1
voltage 0	
	CURRENT MEAS
VCC 4 MODE ICC 4	0.0001247
	-0.0091347
voltage 0	



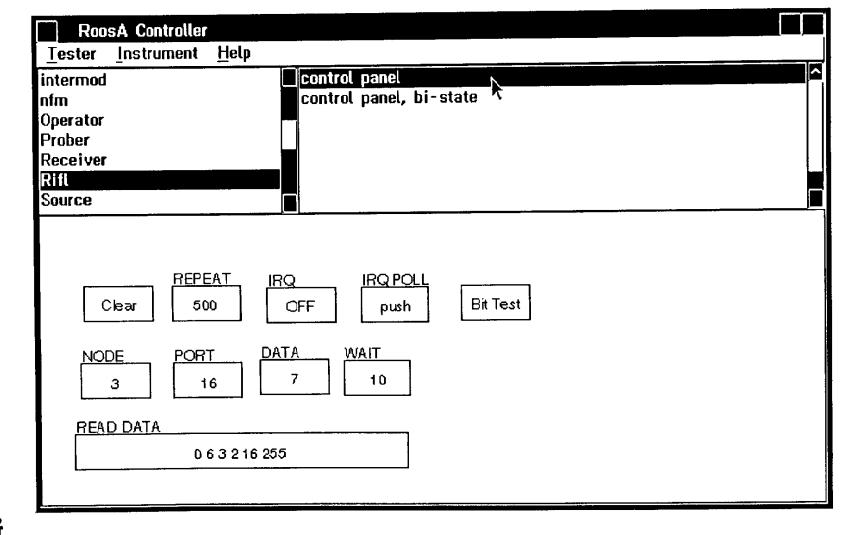




Sending GPIB Commands from Control Panel

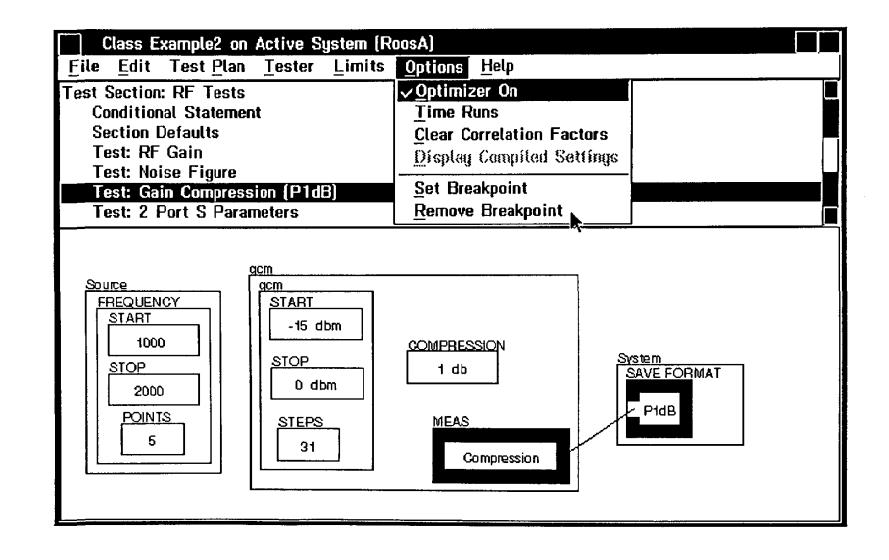
Fixture gcm Gpib	control panel	
Handler ImSrc intermod nfm		
Clear	ADDRESS 19	
WRITE DATA *wai;*opc		
	FG	

Manual Control of RIFL Interface



l Roos Instruments

Removing a Break Point



Tester Viewer Window

- Buttons are Organized by Instrument and Button Type
- Each Instrument is listed in the Tester Viewer Window
- The Setting shown for each Button is its idle State
- Help Text is provided for each Button (FI or Show Note)
- Software Reference for Each Button in Section 5
- Buttons also Provided for DUT, Device Interface & Fixture
- System Buttons include: Calculations, Data Saves,
 Operator Prompts, Output vs. Input Freq & Flow control

Aux SRC (Digital Modulation)

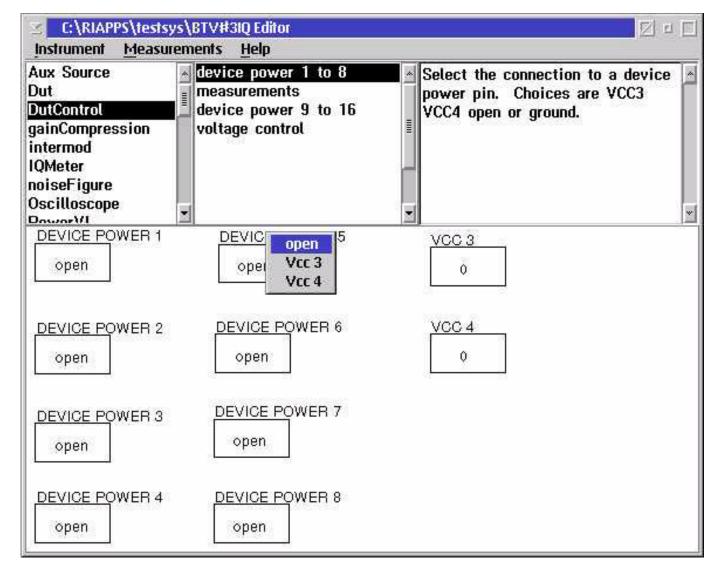
Aux Source Dut DutControl gainCompression intermod IQMeter noiseFigure Oscilloscope	state	 Sets the ALC bandwidth and settling time. When set to slow gives better intermod rejection at the cost of settling time. Use for intermods only. Set on both the main source and
	MODUL	
POWER	OFF CDMA NADC PDC	

DUT

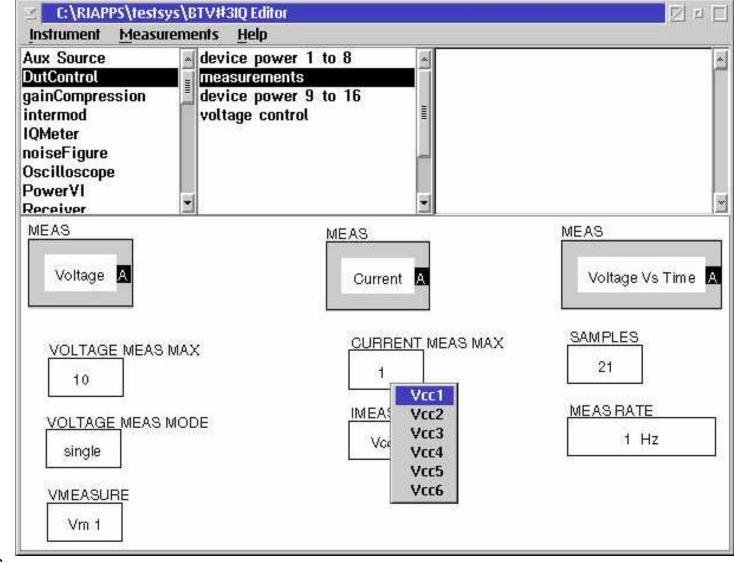
0

	stsys\BTV#3IQ Editor isurements Help	
Aux Source Dut DutControl gainCompression intermod IQMeter noiseFigure Oscilloscope DoworVI	Dut Serial/Parallel Port sta	*
FR	N MODE High Gain Freq1 Freq2 Freq3 Freq4 Freq4 Freq5 Freq6 Freq7 Max Atte	

DUT Control; DP Lines



DUT Control; Measurement



IQ Meter (SSB Modulator)

C:\RIAPPS\test	sys\BTV#3IQ Edito	1	N I I I
Instrument Meas	urements <u>H</u> elp		
Aux Source Dut DutControl gainCompression intermod IQMeter noiseFigure Oscilloscope	ineasuremen	ts 🔹	2
MEAS Sideband Phas	e Error A	SIDEBAND Lower	
MEAS Sideband Gair	1 Error A		



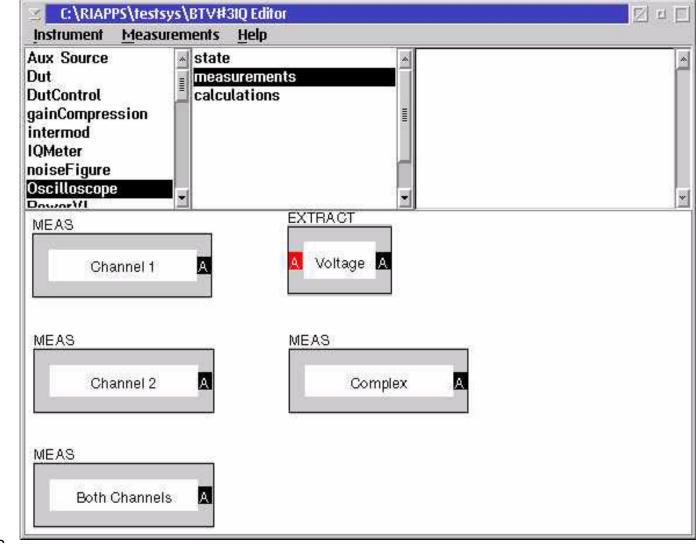
C:\RIAPPS\testsys\BTV#3IQ Ed		
Instrument Measurements Help	l	
Aux Source noise figu Dut DutControl gainCompression intermod IQMeter noiseFigure	re	*
Oscilloscope	×	
MEAS Noise Gain A MEAS Noise Figure	MEAS Hot Noise A MEAS SSB Mixer Noise Figure	MEAS Cold Noise



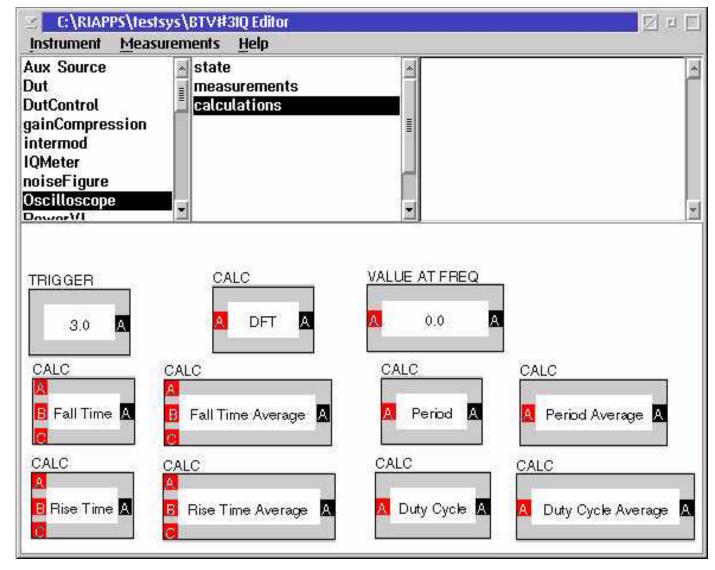
Oscilloscope; State

Aux Source Dut DutControl gainCompression intermod IQMeter noiseFigure Oscilloscope	 state measurements calculations 	Set the digitizing period in seconds / division where the full record is 10 divisions. If the number of samples is 1 then the time per division becomes the sample time. In this case it must be > 8 us.
SEA0045		
		Enter a Number

Oscilloscope; Measurement



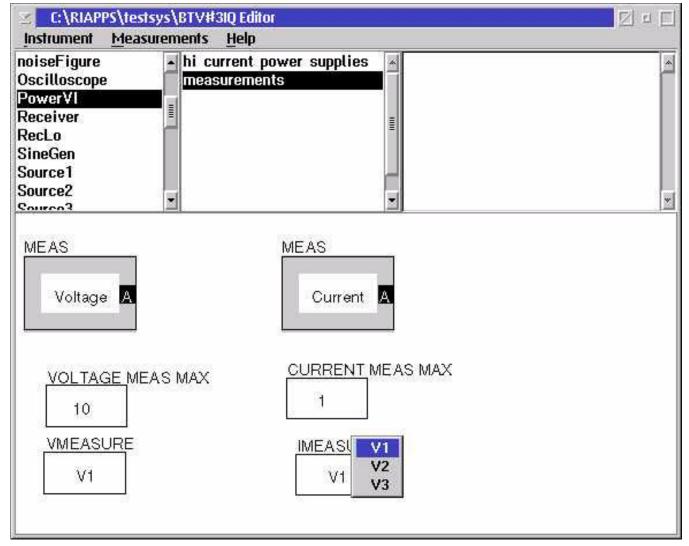
Oscilloscope; Calculations



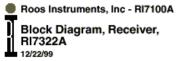
Power VI (Hi-Current Supplies)

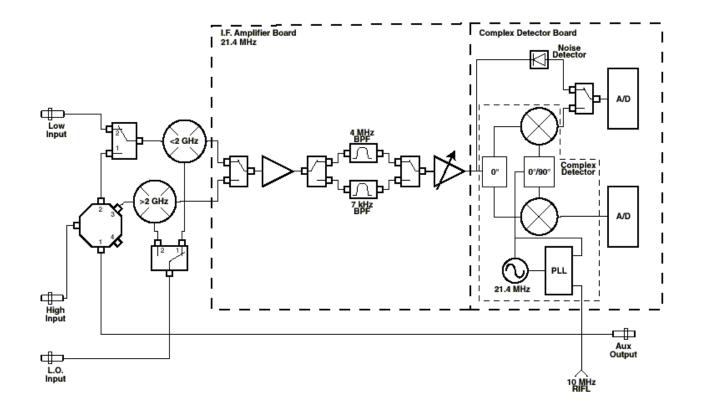
noiseFigure Oscilloscope PowerVI Receiver RecLo SineGen Source1 Source2 Source3	 hi current pomeasuremen iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii		Set output relay t	o on or off
POWER V 1	POWER I 1 0			
POWER V 2	POWER 12	V 2 OUTPUT OFF		
POWER V 3 0	POWER 13 0	V 3 OUTPUT		

Power VI; Measurement



Receiver Block Diagram



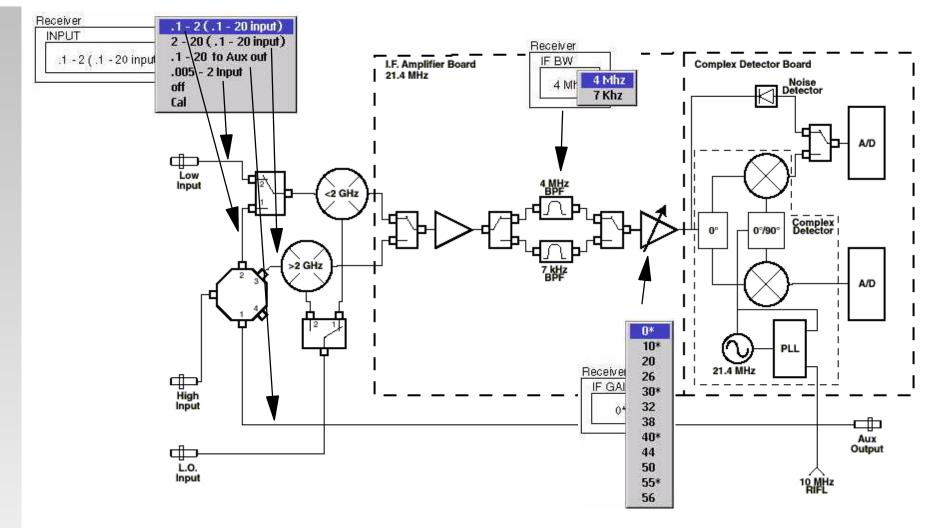


Receiver; State

Instrument Measurem noiseFigure	ents <u>H</u> elp state		
Dscilloscope PowerVI Receiver RecLo	measurements		ſ
SineGen Source1 Source2			
FREQUENCY	MIX SIDE high	IM SPACING 1 Mhz	-15
INPUT .1 - 2 (.1 - 20 input)	SAMPLES		
IFBW	1 MEAS RATE		
4 Mhz IF GAIN	20000	Hz	
0			



Receiver Control



Receiver; Measurement

	tsys\BTV#3IQ Editor	. Z) 🗉 🖂
	surements <u>H</u> elp	
noiseFigure Oscilloscope PowerVI	 state measurements 	
Receiver RecLo SineGen Source1		
Source2	x	
Voltage A MEAS Noise Power A MEAS	MEAS 3rd Order Intercept MEAS Phase Noise (watts/hz)	A
MEAS Power	A	

Receiver LO (System Oscillator)

	estsys\BTV#3IQ Editor asurements Help		
noiseFigure Oscilloscope PowerVI Receiver RecLo SineGen Source1	state		
Source2 Source3	*	<u>*</u>	
FF	REQUENCY 1021.4 Mhz		
	OWER 10 dbm		
	RF STATE ON		

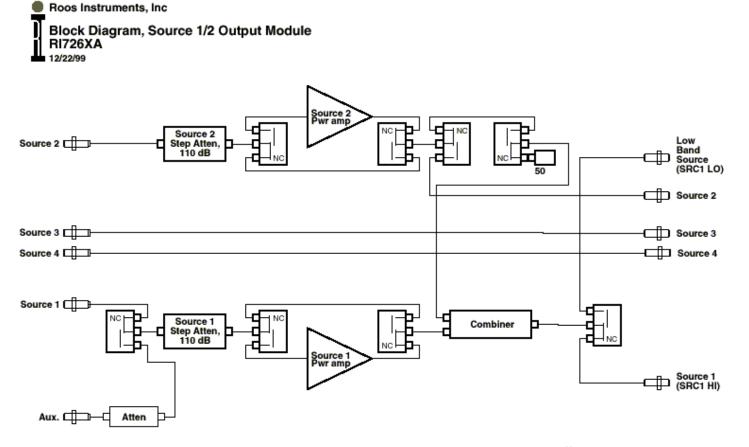
SineGen (Low Phase Noise)

C:\RIAPPS\testsys\BTV#3IQ Edito	or 🔤 🖂 🗖
noiseFigure Oscilloscope PowerVI Receiver RecLo SineGen Source1	Set the source output frequency in megaHertz. Resolution can be 1 hz depending on application
Source2	<u>*</u>
FREQUENCY	

Sources 1, 2, 3, and 4

	stsys\BTV#3IQ Editor asurements Help	
noiseFigure Oscilloscope PowerVI Receiver RecLo SineGen Source1 Source2 Source3	state	
	EQUENCY 999 Mhz	
	WER 0 dbm	
F	RF STATE OFF	

SRC12 Output

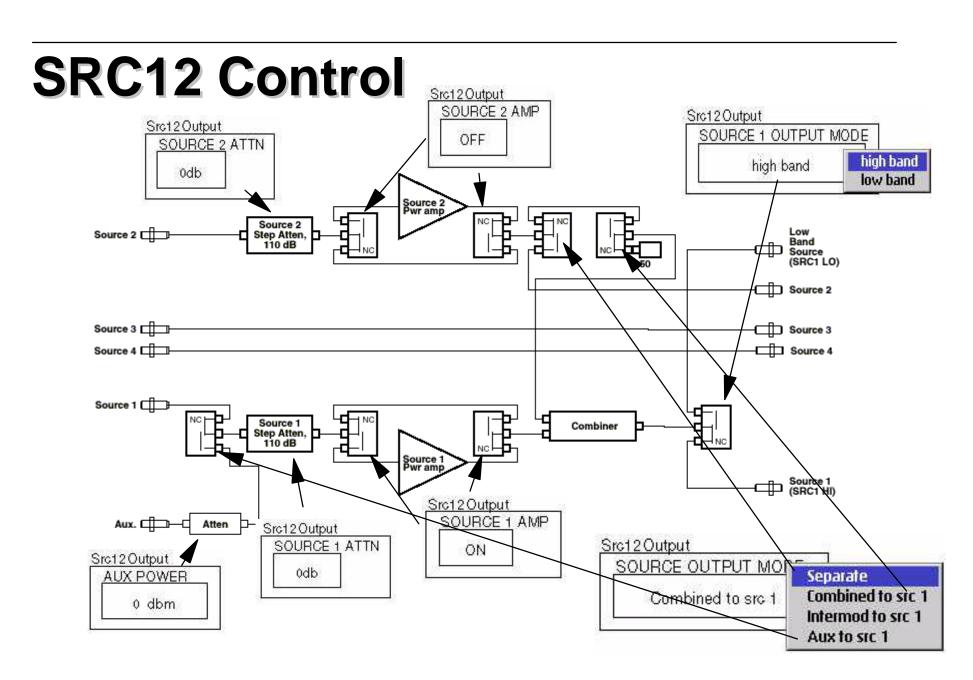


Notes:

7266A: No pwr amps, no aux atten. 7267A: No aux atten. 7268A: No pwr amps 7269A: Fully loaded

SRC12 Output

C:\RIAPPS\testsys\BTV#	3IQ Editor		
Instrument Measurements	Help		
SineGen Source1 Source2 Source3 Source4 Src12Output StaticDigital System Testhead vna Waveform	state		*
	AUX POWER	INTERMOD TRACKING OFF INTERMOD FREQ SPACING 0 Mhz INTERMOD POWER SPACING 0 db	
SOURCE 1 ATTN 0db SOURCE 2 ATTN 0db	SOURCE 1 AMP OFF SOURCE 2 AMP OFF	SOURCE OUTPUT MODE Combined to src 1	SOURCE 1 OUTPUT MODE



Static Digital; DB Lines

	and the second second second second	Help		
SineGen Source1 Source2 Source3 Source4 Src12Output StaticDigital System Festhead	devi mea	ce DB ce serial port sure Serial	Select the connection to a pin.	a data bit
VOFF 0	VON 0	VOFF HIGH BYTE		
DB 1 open	DB 5 off	DB 9 open	DB13 ope off	
DB 2 open	DB 6		DB14 open	
DB3		DB 1 1	DB15	
open DB-4	open DB 8	open DB 1 2	open 	
open	open	open	open	

Static Digital; Device Serial Port

	stsys\BTV#3IQ Editor surements Help	
SineGen Source1 Source2 Source3 Source4 Src12Output StaticDigital System	device DB device serial port measure I2C Serial	*
Testhead	SERIAL TYPE	2
CLOCK None DATA None	DUT Defined SERIAL SIZE 0 msb first	
STROBE 1 None	SERIAL CLOCK POLARITY	
STROBE 2 None	SERIAL STROBE POLARITY SERIAL STROBE LENGTH positive short	

Static Digital; Measurement

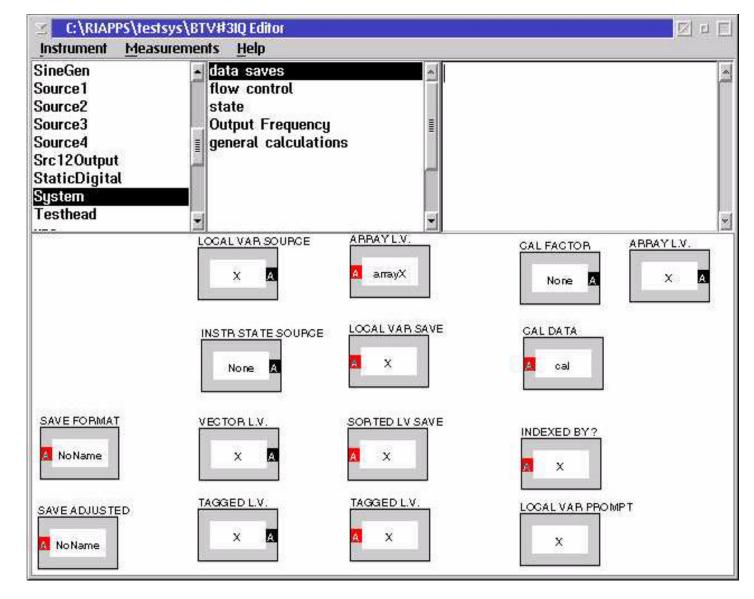
C:\RIAPPS\testsys\E	TV#3IQ Editor	🖾 🗆 🗖
Instrument Measurem	ents <u>H</u> elp	
Source1 Source2 Source3 Source4 Src12Output StaticDigital System	device DB device serial port measure 12C Serial	 Select the mode to use when measuring the selected pin, Vmeas forces current and measures voltage. Imeas forces voltage and measures current
hine là		
MEASURE MODE	MEASURE V FORCE	
	MEASURE V LIMIT	MEASURE I LIMIT
MEASURE PIN DB2	CURRENT MEAS MAX	MEAS MEAS Current A Voltage A



Static Digital; I2C

SineGen Source1 Source2 Source3	 device DB device serial port measure I2C Serial 		
Source4 Src12Output StaticDigital System Testhead			
		[And]	
12 C ADDRESS			
11000000			
94	MEAS	22	
LA A PEQUATER	<u> </u>		
12 C REGISTER	2412		
12 C REGISTER 10110000	IC by	rte A	
× · · · · · · · · · · · · · · · · · · ·		rte A	

System; Data Saves



System; Flow Control

SineGen Source1 Source2 Source3 Source4 Src12Output StaticDigital System Testhead	 ▲ data saves flow contr state Output Fre general ca 	ol equency	
SET FLAG	SKIP IF TRUE	ABORT IF TRUE	OPERATOR PAUSE Click OK to continue
	SKIP IF FALSE	ABORT IF FALSE	



System; State

Instrument Measurements Help			
SineGen Source1 Source2 Source3 Source4 Src12Output StaticDigital System Testhead	data saves flow control state Output Frequency general calculations		
REPEAT			
PAUSE 0			
AVERAGES	INDEX 1		
	AY		

System; Output Frequency

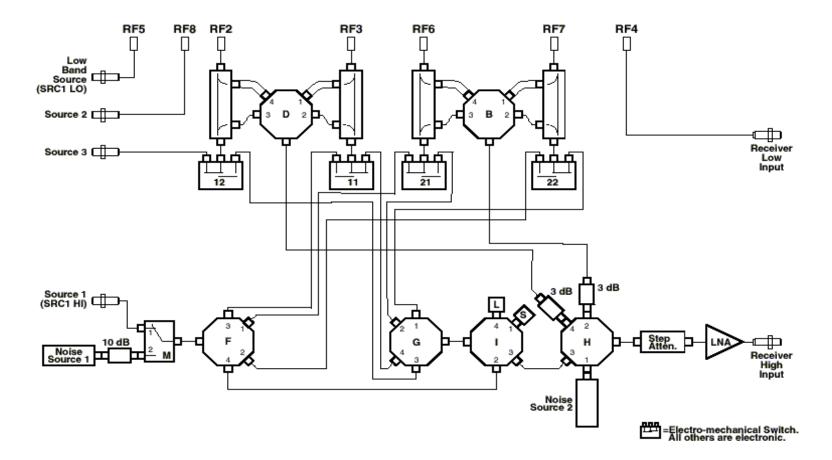
Instrument Measure SineGen Source1 Source2 Source3 Source4 Src12Output StaticDigital	ements <u>H</u> elp data saves flow contro state Output Free general cale	uency	
5	COFFSET	Select None Aux Source Dut DutControl gainCompression intermod IQMeter noiseFigure Oscilloscope select cancel	

System; General Calculations

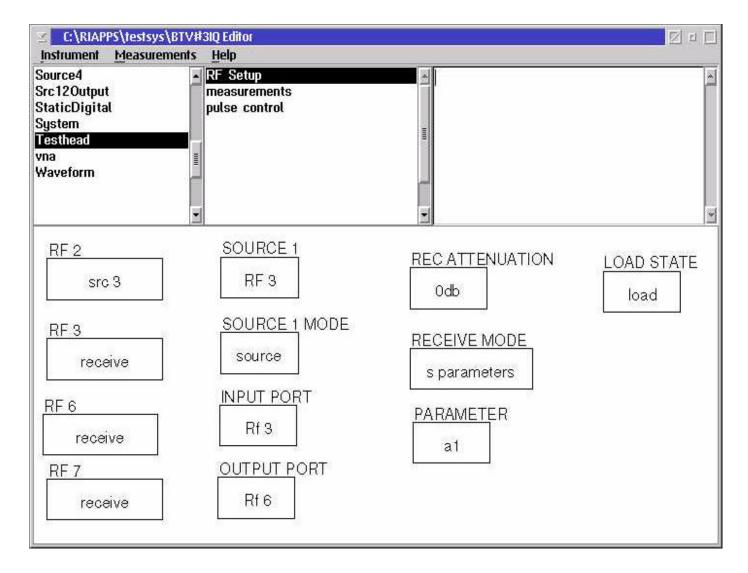
	sys\BT∀#3IQ Editor	
	urements <u>H</u> elp	
SineGen Source1 Source2 Source3 Source4 Src12Output StaticDigital System Testhead	data saves flow control state Output Frequency general calculations	*
		122
CALC	TYPE CHANGE	
CALC		

Testhead Block Diagram



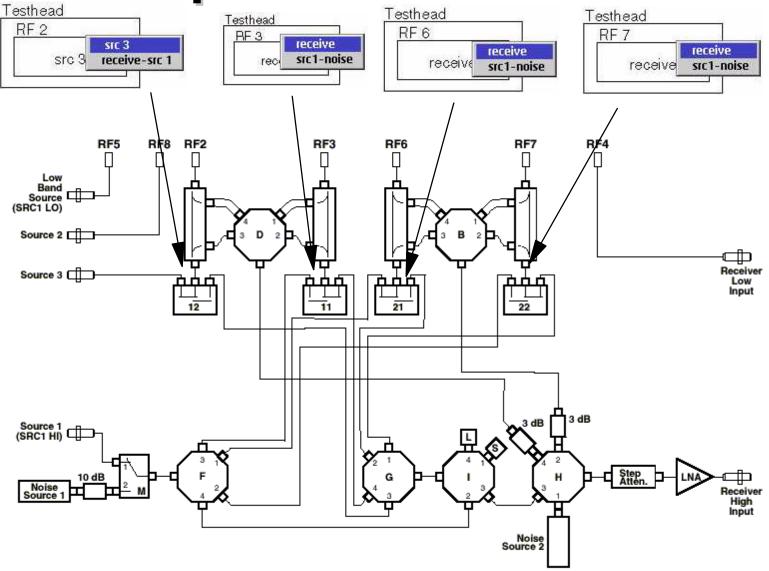


Testhead Editor



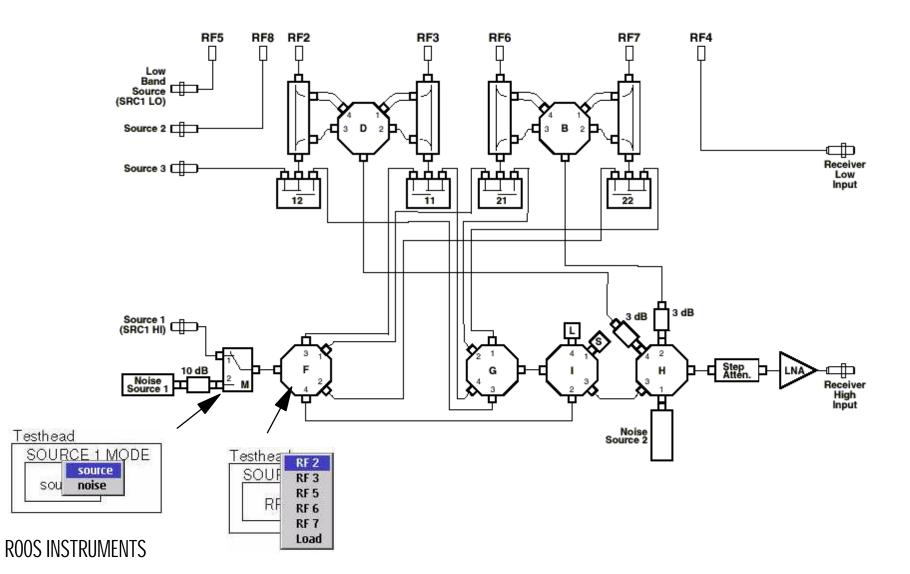


Port Set-Up

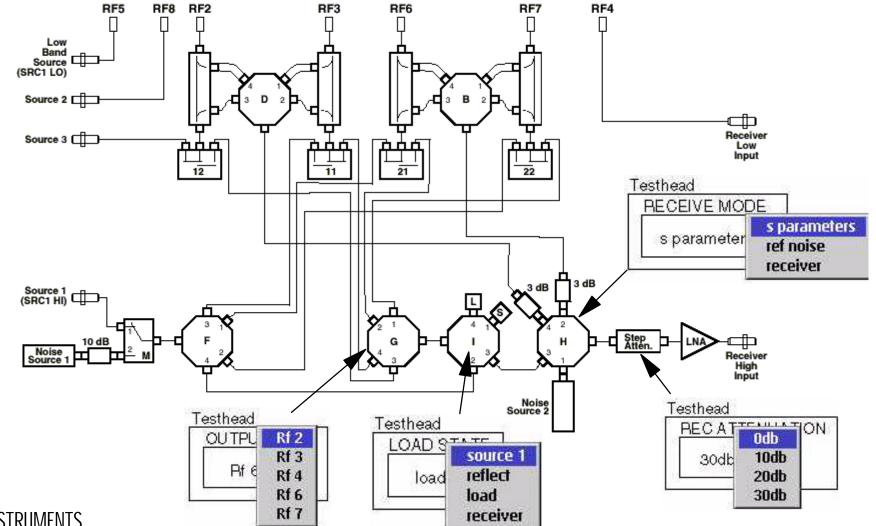


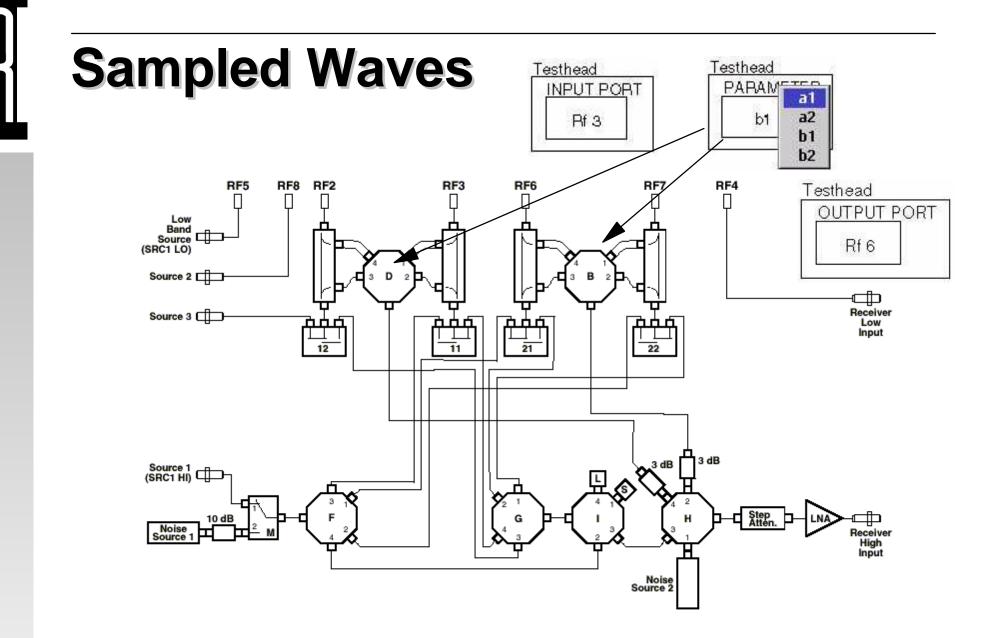
ROOS INSTRL

Stimulus



Receive





Testhead Measurements

sys\BTV#3IQ Editor		
urements <u>H</u> elp		- An and a second
pulse control		
at Input Freq	MEAS output power at rec freq	MEAS Conversion Gain
ol Outsul Essa	MEAS	MEAS Harmonics A
at Output Freq A	MEAS	SPAR MODE
	rements Help RF Setup measurement pulse control	Image: rements RF Setup measurements pulse control pulse control Image: measurements Pulse control Image: measurements Image: measurements Pulse control Image: measurements Image: measur

VNA; Measurements

	stsys\BTV#3IQ Editor		
	surements <u>H</u> elp		
Source3 Source4 Src12Output StaticDigital System Testhead	measurements		
vna Waveform		×	
MEAS S Paramet	ers		
MEAS S11	MEAS Phase A		
MEAS Gain	MEAS		



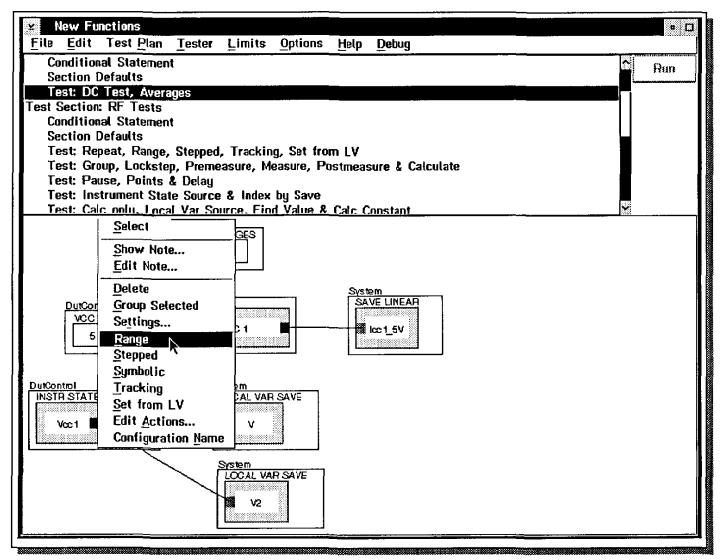
Waveform (ARB); State

	vs\BTV#3IQ Editor ements <u>H</u> elp		
Source3 Source4 Src12Output StaticDigital System Testhead vna Waveform	state modulation		*
WF 2 AMPLITUDE 0 WF 2 OFFSET 0 WF 2 PHASE 0	WF 3 AMPLITUDE 0 WF 3 OFFSET 0 WF 3 PHASE 0	SAMPLE RATE 100 ns FREQUENCY 1 M TYPE None	SAMPLE RATE 100 ns MAX SAMPLES 1000 FREQUENCY 1 MHz
		MAX SAMPLES	

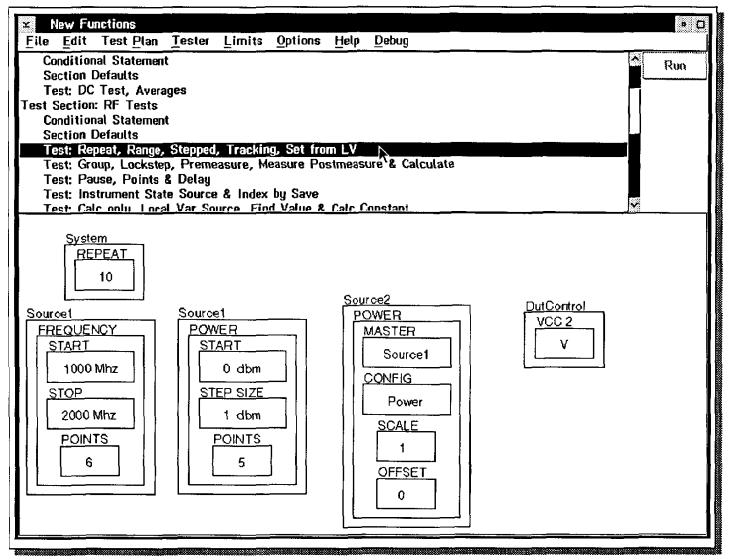
Waveform (ARB); Modulation

C:\RIAPPS\testsy	s\BTV#3IQ Editor		
Instrument Measure	ements <u>H</u> elp		
Source3 Source4 Src12Output StaticDigital System Testhead vna Waveform	 state modulation 	Select the type of modulation generate	to *
FILTER None FILTER SHAPE 0 FILTER BW 1 FILTER TAPS 21	MOD INDEX 1 DATA BITS 100 DATA RATE 10000 MODULATIC Nor		

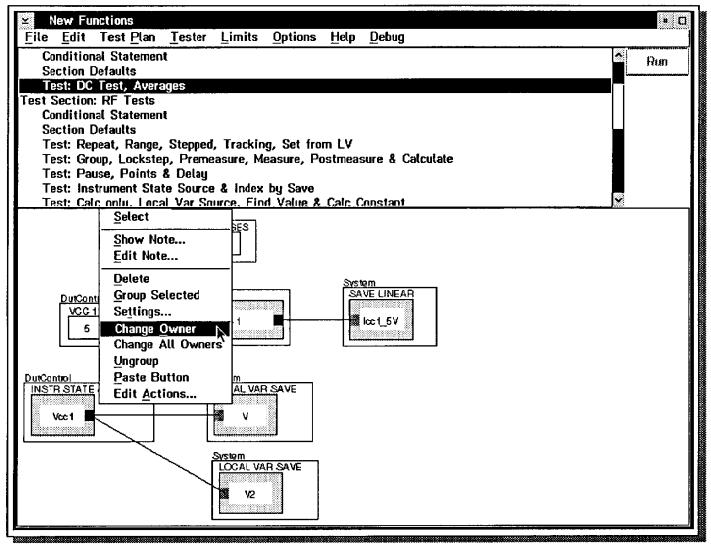
Button 2 Functions



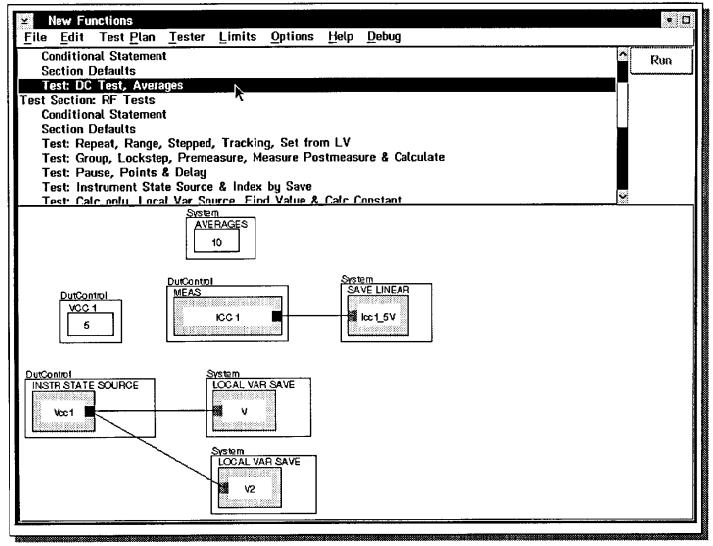
REPEAT, RANGE, STEPPED, TRACKING & SET Local Variable (LV)



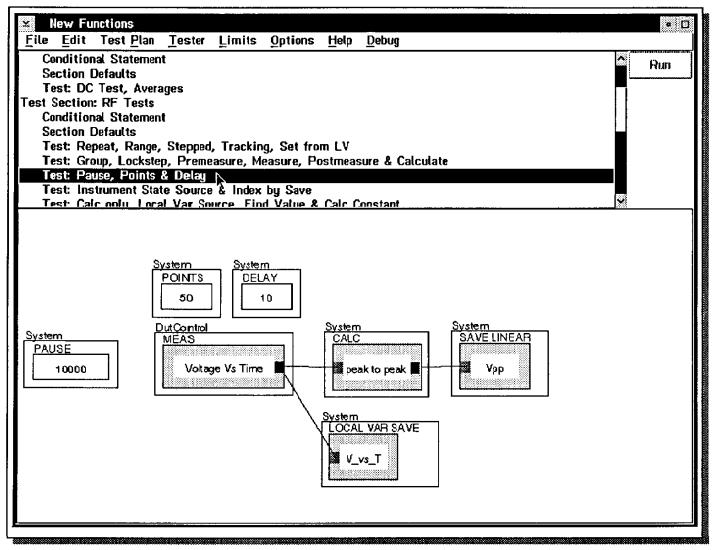
Changing Button Owner



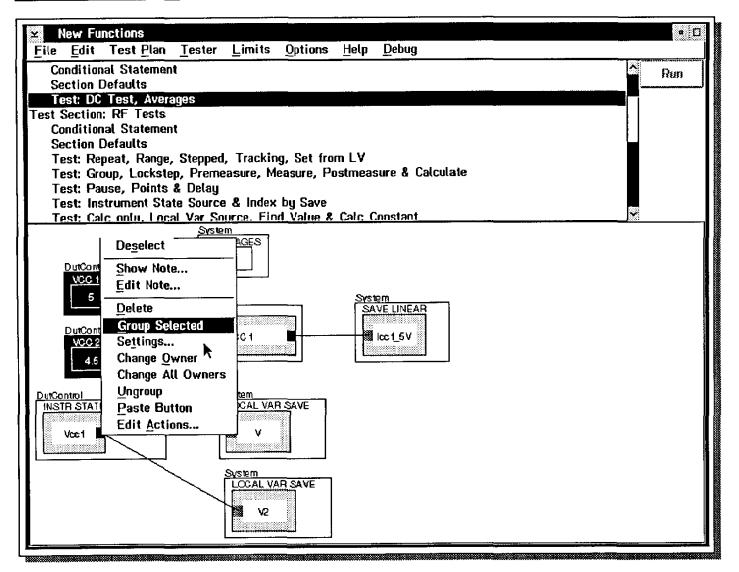
System Buttons: Averages, Inst State Source & Local VAR Save



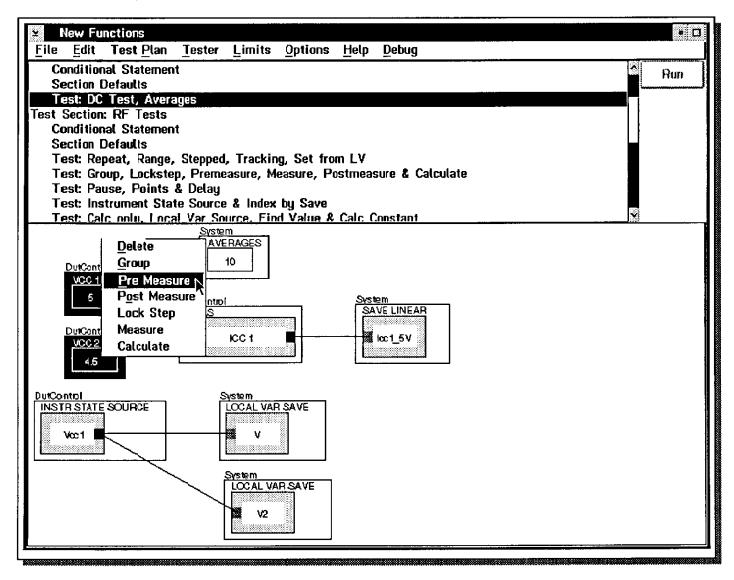
System Buttons: Pause, Points & Delay



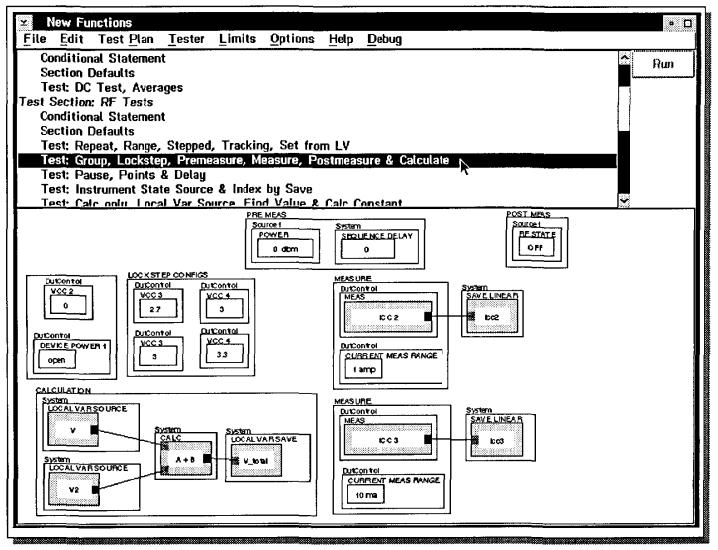
Selecting a Group



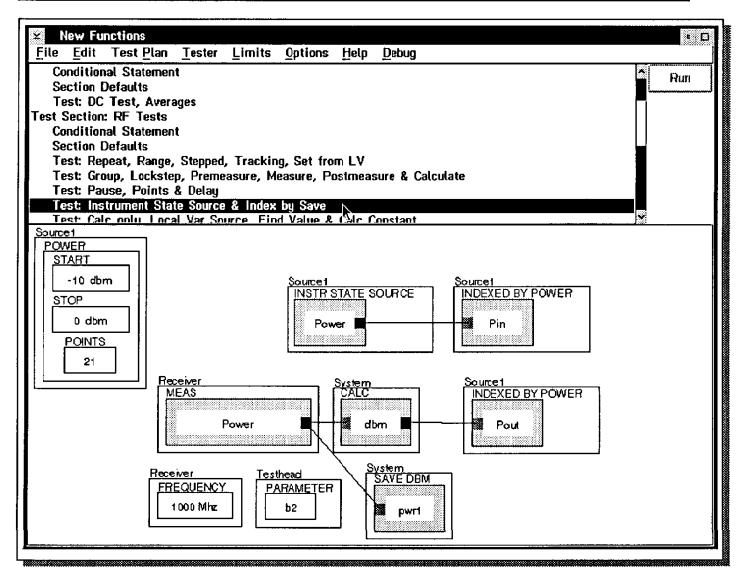
Button 2 Group Functions



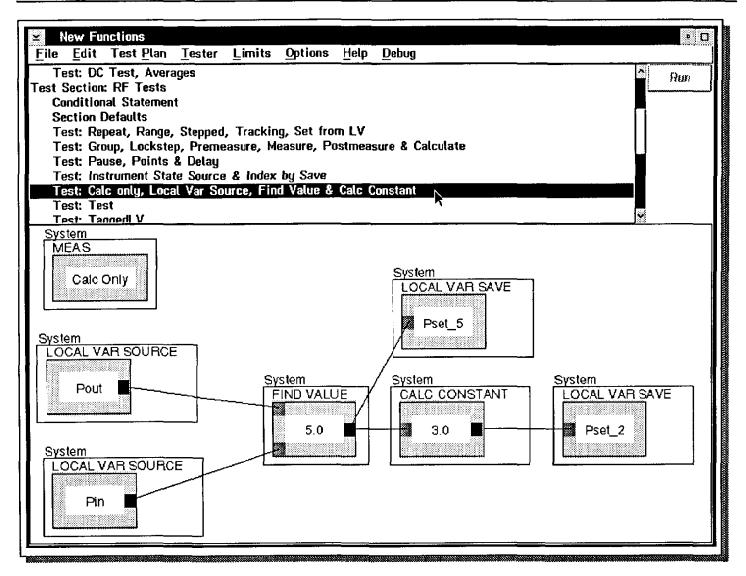
Group, Lockstep, Premeasure, Measure, Postmeasure & Calculate



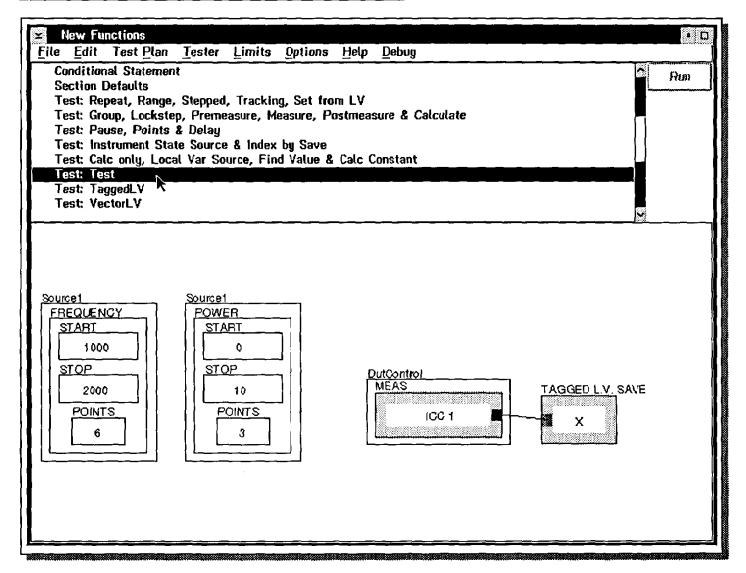
Searching for Desired Level: Instrument State Source & Index By LV Save



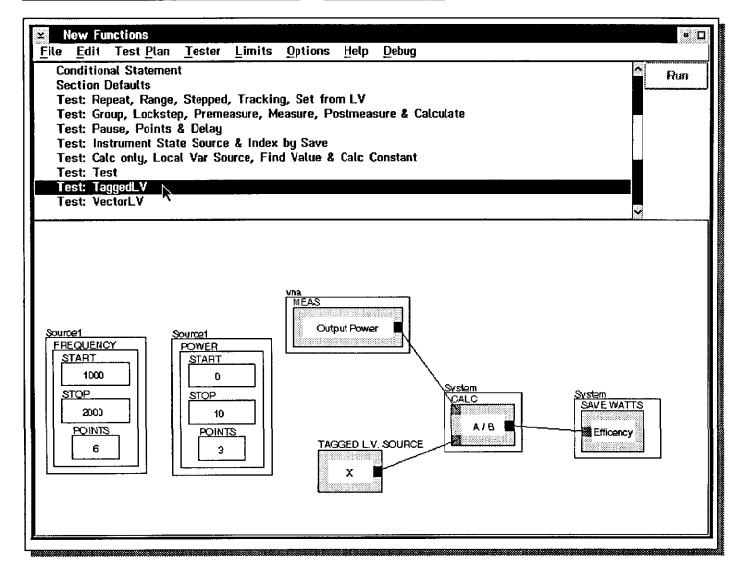
Finding Desired Signal: Local Var Source, Find Value, Calc Constant & LV Save



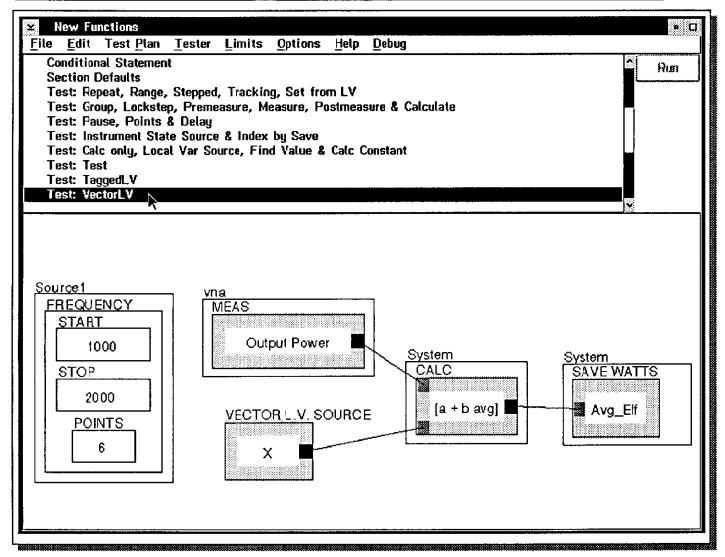
Tagged Local Variables & Tagged LV Save



Tagged Local Variables and Tagged LV Source



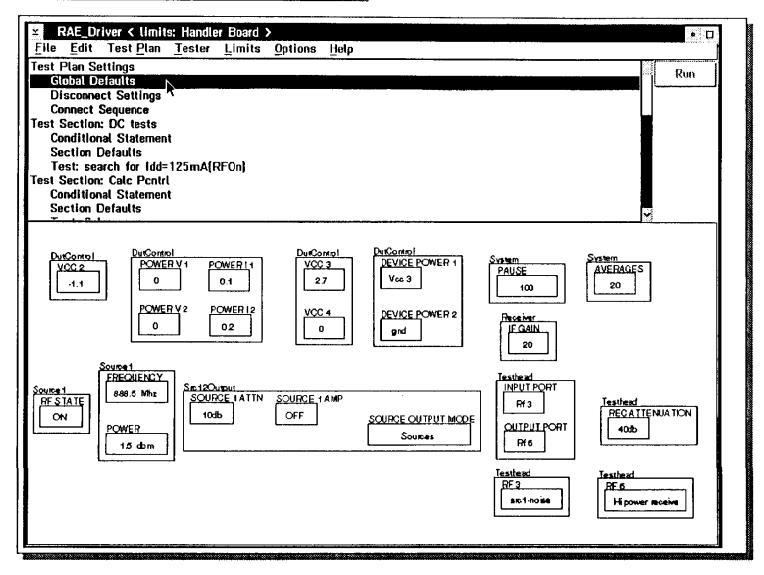
Vector Local Variables, Tagged Vector LV Source & Vector Calculations



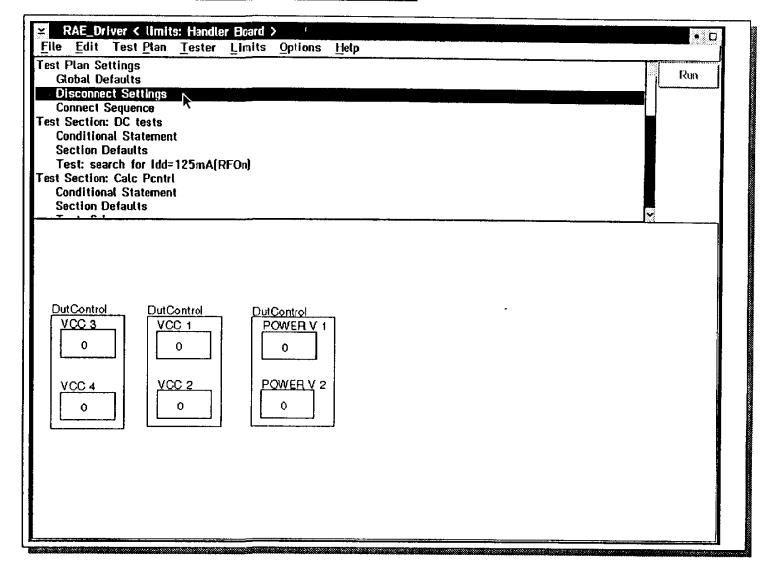
Typical Test Plan

Roos Instruments

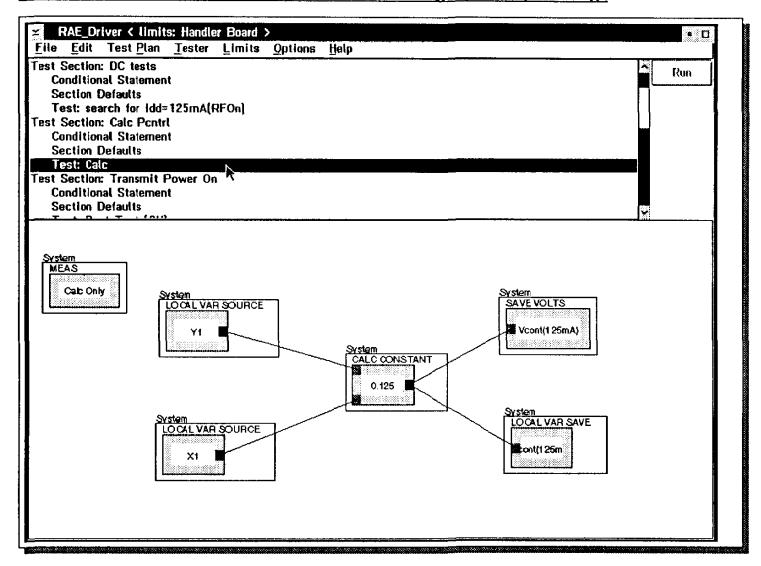
REA Driver Test Plan - Global Defaults



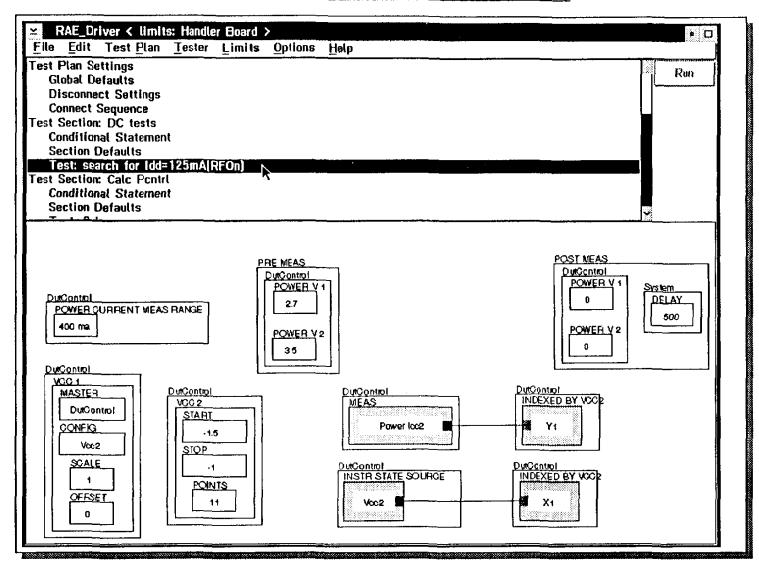
REA Driver Test Plan - Disconnect Settings



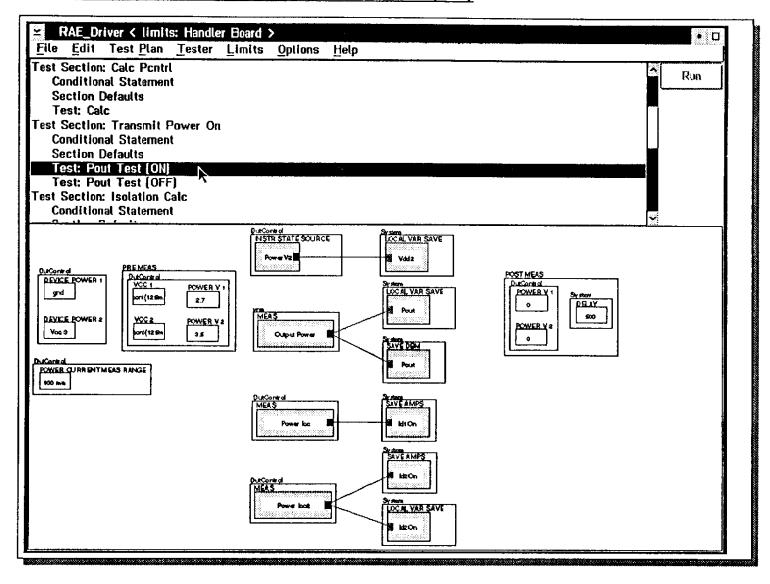
REA Driver Test Plan - Calculate Control Voltage (Vcont(125mA))



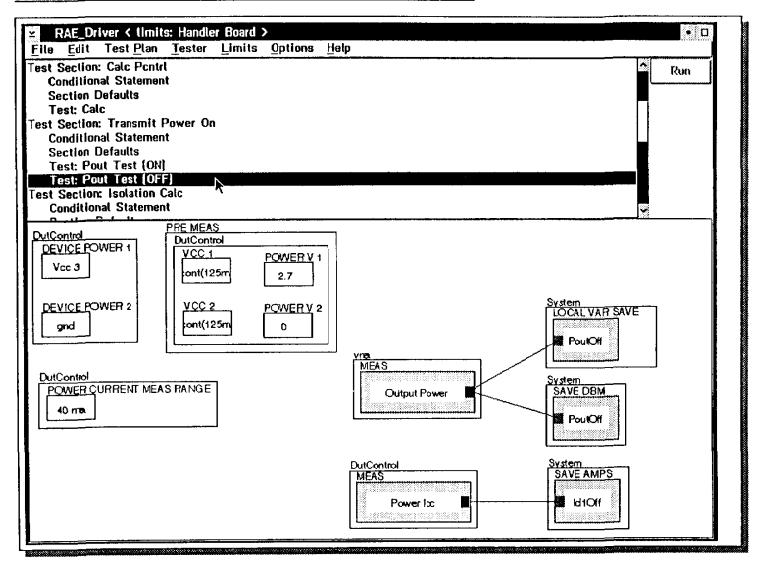
REA Driver Test Plan - Test: Search for Idd = 125 mA (RF On)



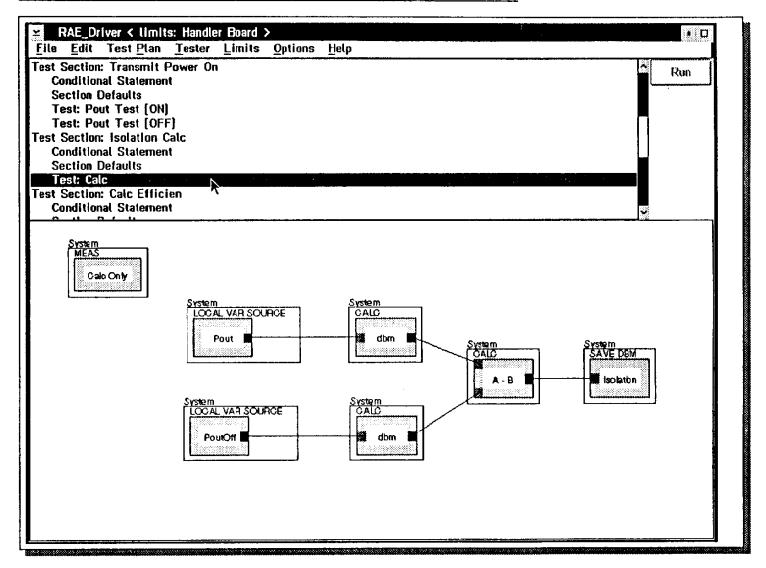
REA Driver Test Plan - Test Panel: Pout Test (ON)



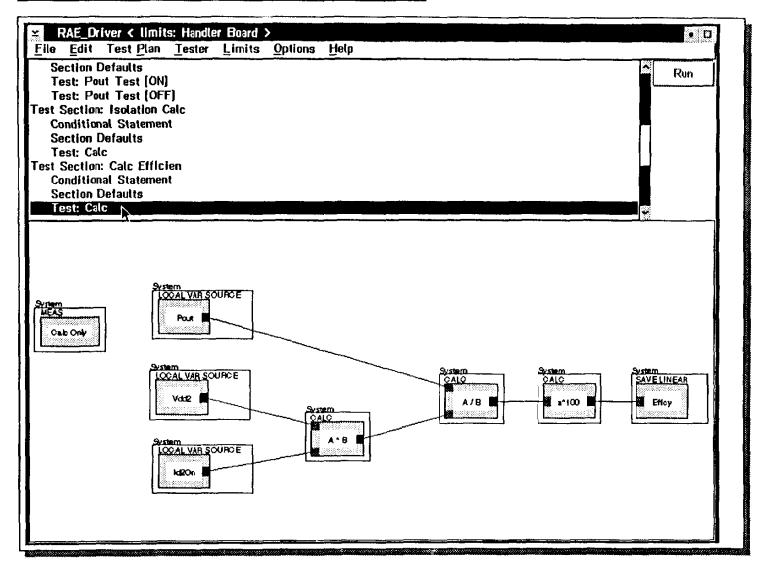
REA Driver Test Plan - Test Panel: Pout Test (OFF)



REA Driver Test Plan - Test Panel: Calculating Isolation

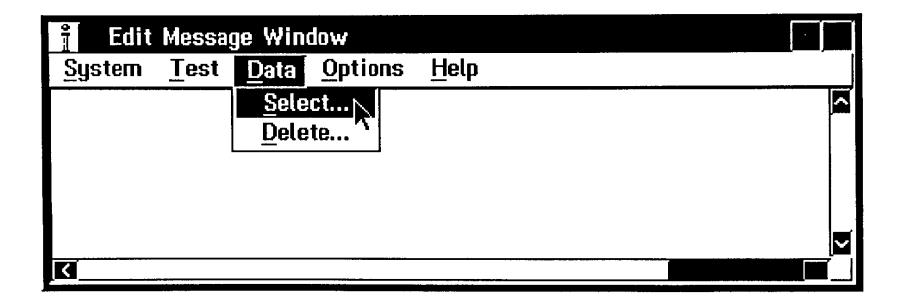


REA Driver Test Plan - Calculating Efficiency



Local SQL Data Base Tools

Opening the Data Base Selector Window



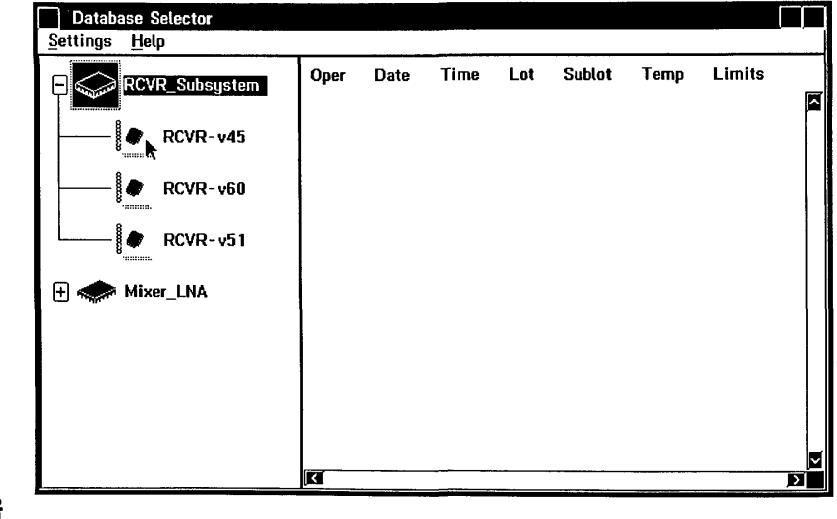
Data Base Selector Window

K

Database Selector Settings Help Limits Oper Date Time Lot Sublot Temp RCVR_Subsystem + ~ 🕂 🛹 Mixer_LNA

 $\mathbf{\Sigma}$

Selecting a DUT and Test Plan

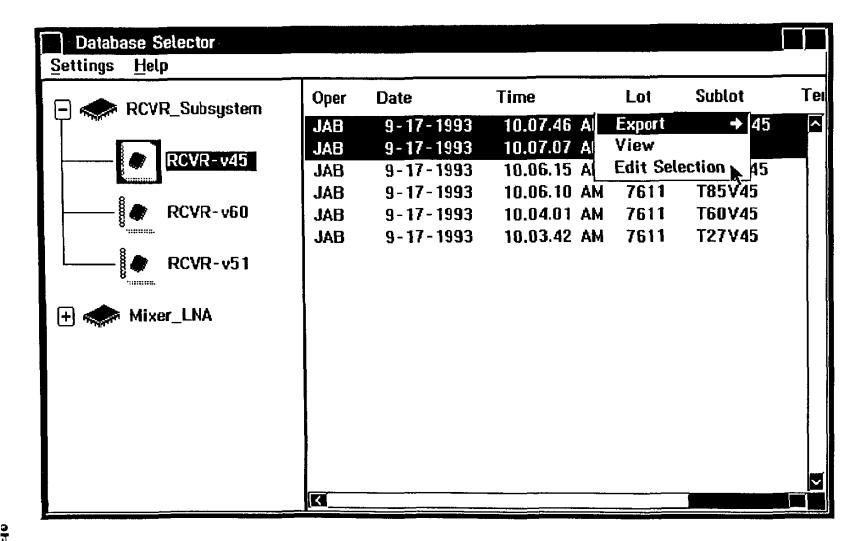


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Selecting the Lot(s) & Sublot(s)

RCVR_Subsystem	Oper	Date	Time	Lot	Sublot	Tei
) 🐢 RCVR_Subsystem	JAB	9-17-1993	10.07.46 AM	7611	TM45V45	^
	JAB	9-17-1993	▶ 10.07.07 AM	7611	T0V45	
— 🥢 RCVR-v45	JAB	9-17-1993	10.06.15 AM	7611	T110V45	
0	JAB	9-17-1993	10.06.10 AM	7611	T85V45	
— 🖁 🖝 🛛 RCVR- v60	JAB	9-17-1993	10.04.01 AM	7611	T60V45	
• 	JAB	9-17-1993	10.03.42 AM	7611	T27V45	
RCVR-v51						
Mixer LNA						
Mixer_LNA						
Mixer_LNA						
Mixer_LNA						
) 🗼 Mixer_LNA						
Mixer_LNA						

Opening the Data Selection Window



Roos Instruments

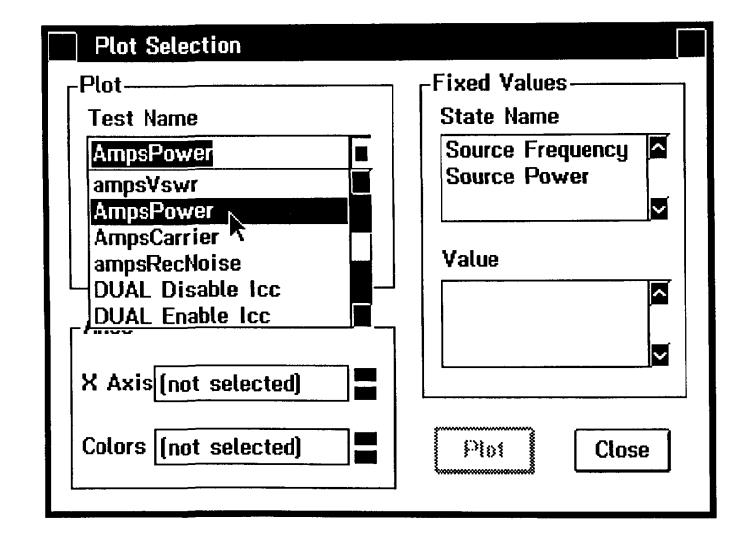
Selecting the Pass/Fail Filter

Data Selection -Pass/Fail -Test Plan-Flag **Device Number** Test Plan RCVR Subsyst ^ RCVR-v45 ^ Passed RCVR-v60 Mixer LNA Test Name RCVR-v51 Steep ICC 羅 $\mathbf{\nabla}$ V -Filter -Lots Date Time Lot:Sublot [/Temp] mon-dd-yy [09-17-93 10.07] <7611 : TM45V45 After: [09-17-93 10.07] <7611 : TOV45> [09-17-93 10.06] <7611 : TOV45> Before: [09-17-93 10.06] <7611 : T110V45 [09-17-93 10.06] <7611 : T85V45> [09-17-93 10.04] <7611 : T60V45> Se Exclude retests <u>र</u> OK Cancel

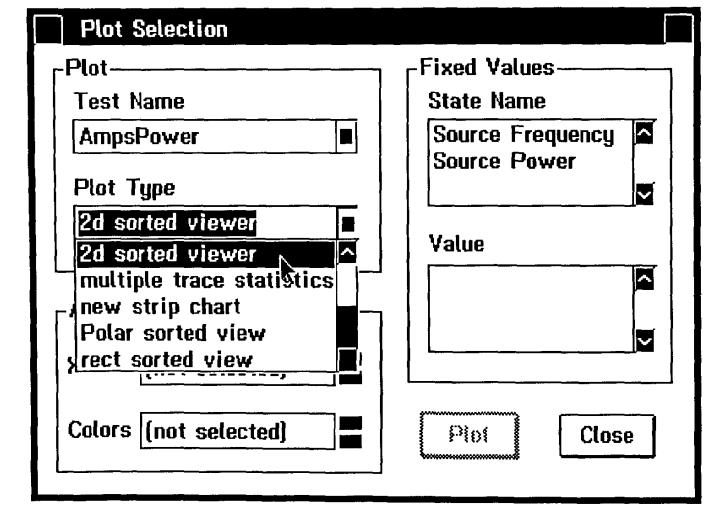
Viewing the Lot(s) & Sublot(s) Selected

🗕 🧼 RCVR_Subsystem	Oper	Date	Time	Lot	<u>Sublot</u>	Те
-] RCVR_Subsystem	JAB	9-17-1993	10.07.46 AM	Export	÷15	
	JAB	9-17-1993	10.07.07 AM	View	lection 5	
RCVR-v45	JAB	9-17-1993	10.06.15 AM		steetton 5	
8 -	JAB	9-17-1993	10.06.10 AM	7611	T85V45	
🖗 RCVR-v60	JAB	9-17-1993	10.04.01 AM	7611	T60V45	
	JAB	9-17-1993	10.03.42 AM	7611	T27V45	
ö						
+) 🛹 Mixer_LNA						
+] MIXEr_LNA						

Selecting the Test Name (Data Save Name)



Selecting the Plot Type (Data Viewer)

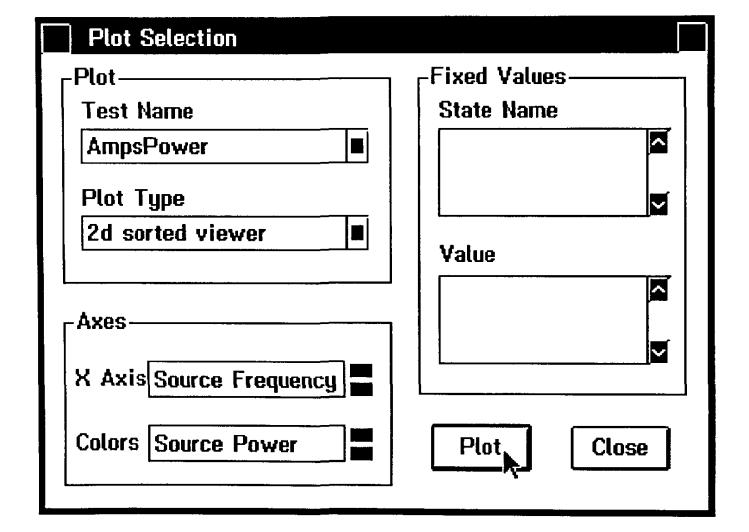


Roos Instruments

Selecting the X Axis & Colors Parameters

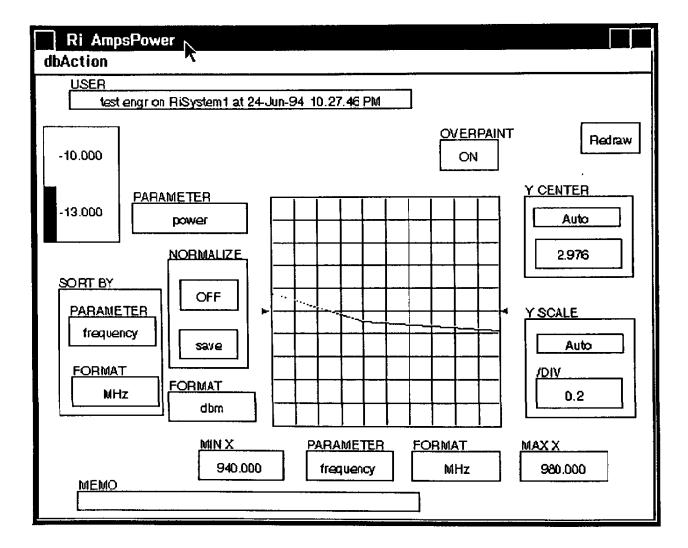
Plot Selection	
Plot Test Name AmpsPower	Fixed Values State Name
2d sorted viewer	Value
X Axis Source Frequency	Plot Close

Opening the Data Viewer

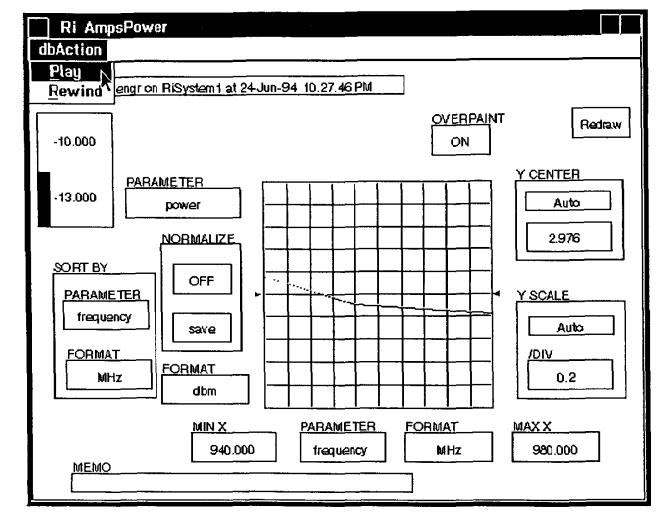


Roos Instruments

Viewing the Data



Read the Data from Data Base

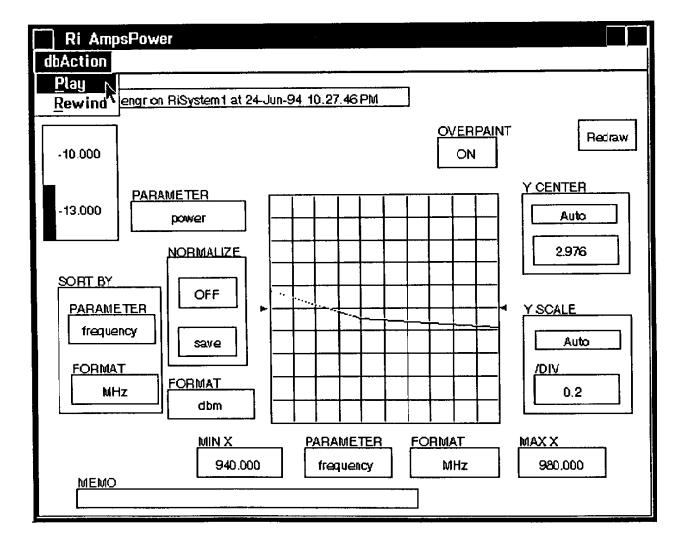


I Roos Instruments

Displaying the Data for the Devices Selected

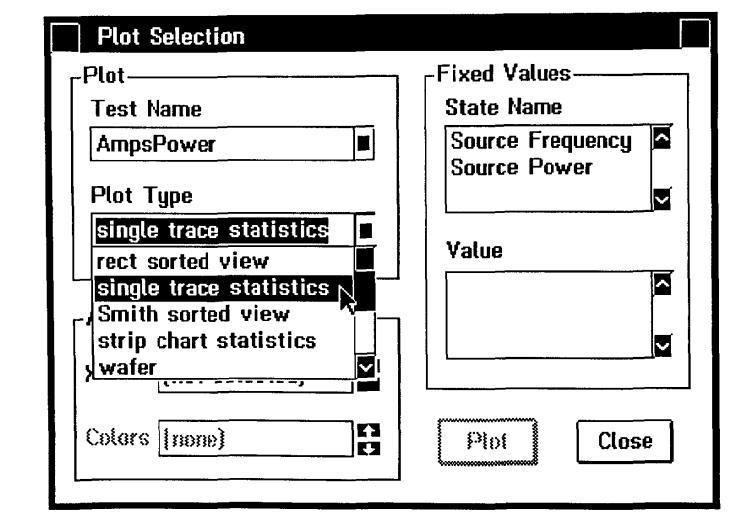
Ri AmpsPower dbAction USER test engrion RiSystem1 at 24-Jun-94, 10.30, 42 PM OVERPAINT Redraw -10.000 ON Y CENTER PARAMETER -13.000 power Auto NORMALIZE 2.976 3955 -SORT BY OFF 4:. PARAMETER Y SCALE frequency save Auto FORMAT /DIV FORMAT MHz 0.2 dbm MIN X PARAMETER FORMAT MAX X 940.000 frequency MHz 980.000 MEMO

Read the Data from Data Base



Roos Instruments

Selecting the Plot Type - Single Trace Stats

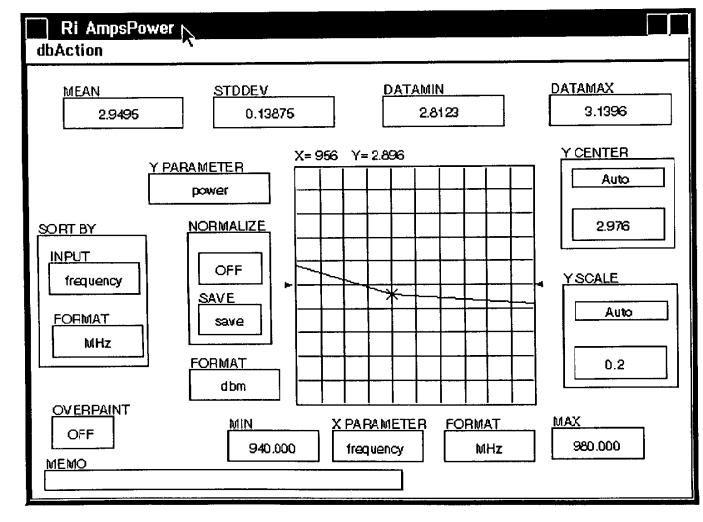


Roos Instruments

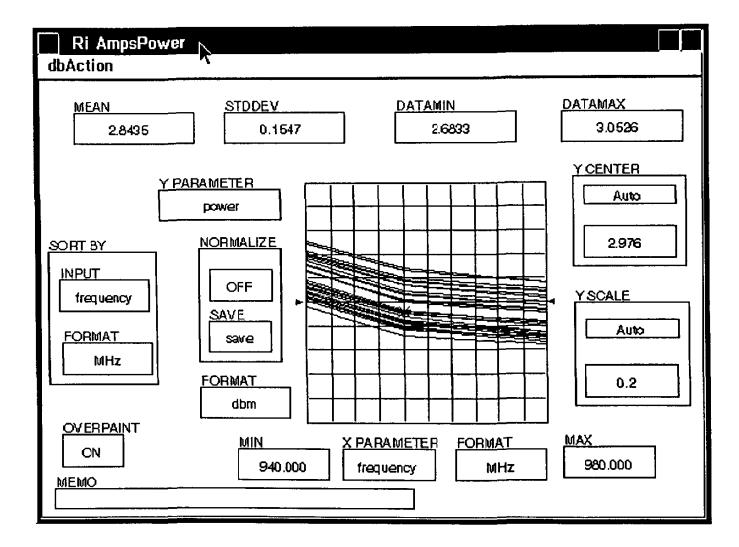
Selecting the Axes & Fixed Values

Plot Selection	
Plot	Fixed Values
Test Name	State Name
AmpsPower	Source Power
Plot Type	
single trace statistics	Value
	- 13.0
Axes	-10.0
X Axis Source Frequency	
Colors (none)	Plot Close

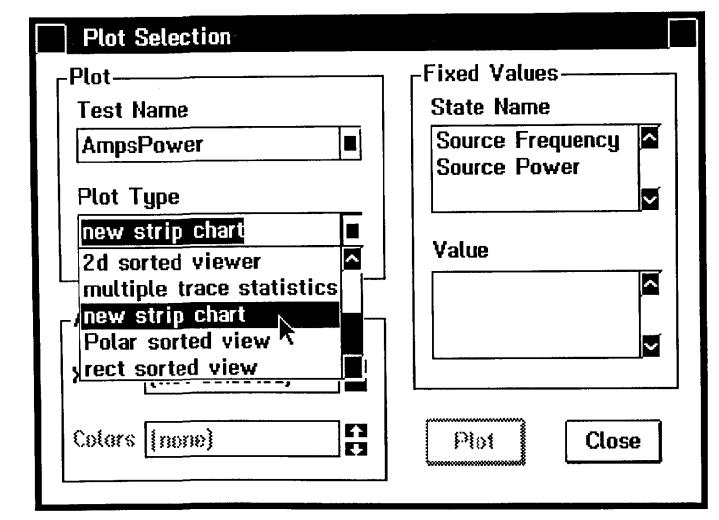
Viewing the 1st Set of Data Selected



Displaying all of the Data Selected



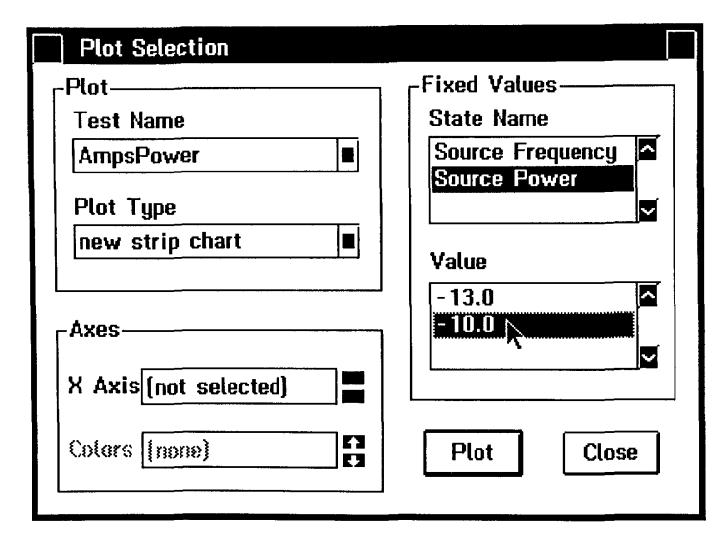
Selecting the Plot Type - Strip Chart



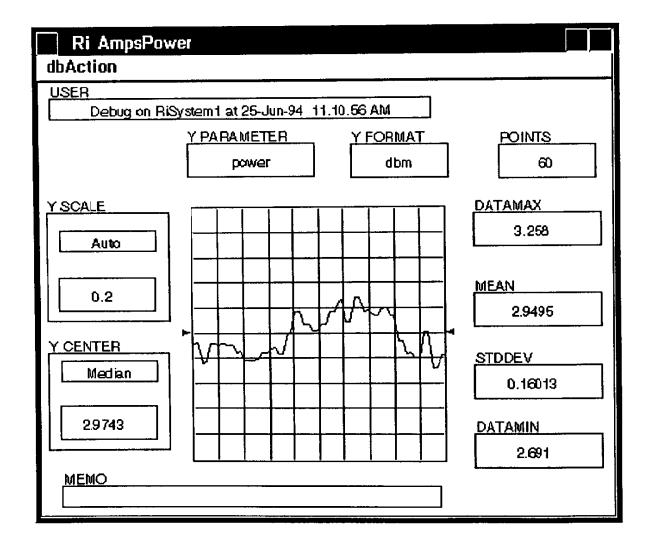
Selecting the Fixed Values

Plot Selection -Fixed Values--Plot-Test Name State Name Source Frequency $\overline{}$ AmpsPower Source Power Plot Type V new strip chart Value ^ 940.0 956.0 - Axes 980.0 ħ $\overline{\mathbf{v}}$ X Axis (not selected) Colors [none] Plot Close Ţ

Selecting the Fixed Values

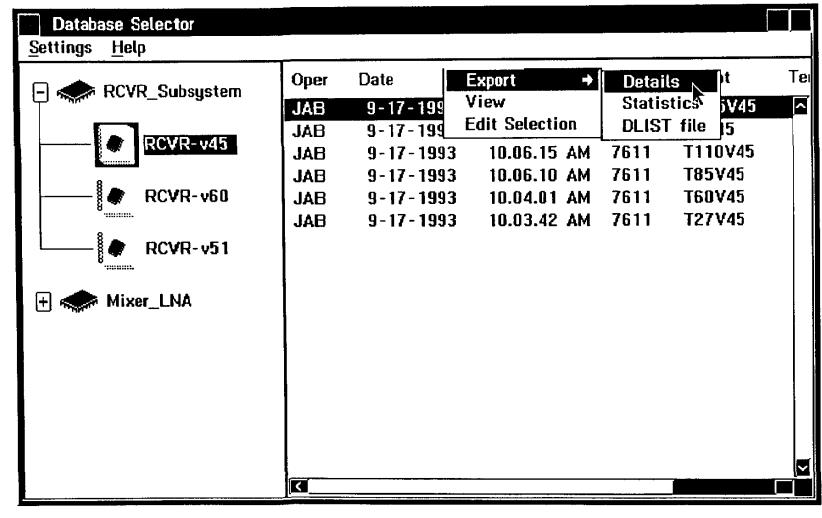


Viewing the Data on a Strip Chart



Exporting Detailed Data





Data Worksheet

JbWor	ksheet 📐						
<u>File Opti</u>	ions Inspect	Help					
	1.1.1.1	1.2.1.1	1.3.1.1.1	1 3.1.1.2	1.3.1.2.1	1.3.1.2.2	1.3.1.3.1
	Sleep ICC	Standby ICC	LoBuffer	LoBulfer	LoBuffer	LoBuffer	LoBuffer
	•		Frgncy: 300.0, 1	P Francy: 900.0, I	P Francy: 970.0,	P Francy: 970.0	, P Francy: 104
Device: 1		0.71622e-2	-18.5982	-18.2146	-17.9689	-17.634	-19.1464
Device: 2		0.70946e-2	18,6002	-18.2254	-17.9314	-17.5964	-19.0637
Device: 3		0.70946e-2	-18.7284	-18.3636	-18.0569	·17.7346	-19.1877
Device: 4		0.70946e-2	-18.6373	·18.2692	-17.9543	-17 .6226	-19.1066
Device: 5		0.71622e-2	-18.4354	-18.089	·17.7702	-17.4532	-18.8746
Device: 6		0.72297e-2	-18.6753	-18.3095	-17.9998	-17.679	-19.1468
Device: 7		0.71622e-2	-18.5159	-1 8.140 4	-17.8544	- 17 .5311	-18.9793
Device: 8		0.72297e-2	-18.4823	-18.1271	-17.8123	-17.4979	-18.9404
Device: 9		0.70946e-2	18.5698	-18.2184	-17.9055	-1 7.5916	-19.0617
Device: 10		0.72297e-2	-18.5135	-18.1615	-17.8577	-17.5425	-18.9905
Device: 11		0.72973e-2	-18.5039	18.1412	-17.661	-17.5378	-19.0056
Device: 12		0.72297e-2	-18.4216	-1 8.071	-17.7437	-17.4429	-18.8786
Device: 13		0.73649e-2	-18.3786	-1 8.0268	-17.6976	-17.3848	-18.8785
Device: 14		0.71622e-2	-18.4613	-1 8.1399	-17.7891	-17.4973	-18.9804
Device: 15		0.70946e-2	18.5856	-18.2635	-17.9072	-17.6205	-19.1032
Device: 16		0.70946e-2	-18.5442	-18.2156	-17.6665	-17.5715	-19.0557
Device: 17		0.75e-2	-18.1762	-17.8197	-17.4968	·17.1769	-18.6476
Device: 18		0.73649e-2	-18.3164	-1 7.9602	-17.6425	·17.3325	-18.7849
Device: 19		0.72297e-2	-18.3722	-18.0363	-17.7259	-17.4152	-18.8727
Device: 20		0.736 49e -2	-18.3299	-17.9937	-17.633	-17.3392	-18.7868
Device: 21		0.74324e-2	-18.1016	-17.7367	-17.4186	-17.0929	-18.5612
Device: 22		0.72973e-2	-18.4073	-18.0688	-17.7318	-17.44	-18.8876
Device: 23		0.72973e-2	-18.4205	-18.0965	-17.735	-17.4421	-18.9068
Device: 24		0.72973e-2	-18.2567	-17.9424	17.5895	·17.3175	-18.7646
Device: 25		0.72297e-2	-18.4621	-18.1223	-17.7829	-17.4869	-18.9112
Device: 26		0.72297 e- 2	-18.4936	-18.1572	17.8268	-17.5265	-18.9481 🔜
Device: 27		0.72297e-2	-18.5722	-18.2385	-17.9134	-17.621	-19.047
Device: 28		0.72973e-2	-18.348	-18.014	17.6539	-17.3629	-18.758
Device 29		0 71622e-2	-18 5686	-18 2079	-17 8737	-17 5534	-19 0019
K							

Saving the Exported Data

			1.00			
JbWorksheet						
File Options Inspec	t <u>H</u> elp					
Save As Wks	1.21.1	1.3.1.1.1	1.3.1.1.2	1.3.1.2.1	1.3.1.2.2	1.3.1.3.1
Save As Csv R	Standby ICC	LoBuffer	LoBuffer	LoBuffer	LoBulfer	LoBuffer
	-	Francy, 900.	0, P Francy: 900.0	0, P Francy: 970.1	0, P Francy: 970.1	D, PFrancy: 10
Device: 1	0.71622e-2	18.5982	18.2146	17.9689	-17.634	19.1464
Device: 2	0.70946e-2	18.6002	18.2254	-17.9314	-17.5964	19.0637
Device: 3	0.70946e-2	-18.7284	18.3636	-18.0569	-17.7346	-19.1877
Device: 4	0.70946e-2	-18.6373	18.2692	-17.9543	-17.6226	-19.1066
Device: 5	0.71622e-2	18.4354	18.089	-17.7702	·17.4532	-18.8746
Device: 6	0.72297e-2	-18.6753	18.3095	-17.9998	-17.679	-19.1468
Device: 7	0.71622e-2	-18.5159	18.1404	-17.8544	-17.5311	-18.9793
Device: 8	0.72297e-2	-18.4823	18.1271	·17.8123	-17.4979	-18.9404
Device: 9	0.70946e-2	-18.5698	18.2184	-17.9055	-17.5916	19.0617
Device: 10	0.72297e-2	-18.5135	18.1615	-17.8577	-17.5425	18.9905
Device: 11	0.72973e-2	-18.5039	18.1412	-17.661	-17.5378	-19.0056
Device: 12	0.72297e-2	-18.4216	-18.0 7 1	-17.7437	-17.4429	18.8786
Device: 13	0.73649e-2	-18.3786	18.0268	-17.6976	-17.3848	18.8785
Device: 14	0.71622e-2	-18.4613	18 1399	-17.7891	-17.4973	18.9804
Device: 15	0.70946e-2	-18.5856	18.2635	-17.9072	-17.6205	19.1032
Device: 16	0.70946e-2	-18.5442	18.2156	17.8665	-17.5715	19.0557
Device: 17	0.75e-2	-18.1762	17.8197	-17.4968	-17.1769	18.6478
Device: 18	0.73649e-2	-18.3164	-17.9602	17.6425	-17.3325	18.7849
Device: 19	0.72297 e -2	-18.3722	18.0363	-17.7259	-17.4152	-18.8727
Device: 20	0.73649e-2	-18.3299	17.9937	17.633	-17.3392	18.7868
Device: 21	0.74324e-2	- 18 ,1016	-17.7367	-17.4166	-17.0929	18.5612
Device: 22	0.729 73e- 2	-18.4073	-18.0688	-17.7318	-17.44	18.8876
Device: 23	0.72973e-2	-18.4205	-18.0965	-17,735	-17.4421	18.9068
Device: 24	0.72973e-2	-18.2567	-17.9424	17.5895	-17.3175	18.7646
Device: 25	0.72297e-2	-18.4621	-16 .1223	-17,7829	-17.4869	18.9112
Device: 26	0.72297e-2	-18.4936	-18.1572	-17.8268	-17.5265	18.9481
Device: 27	0.72297e-2	-18.5722	-18.2385	-17.9134	-17.621	19.047
Device: 28	0.72973e-2	-18.348	-18.014	-17.6539	-17.3629	18.758
Device: 29	<u>0.71622e-2</u>	<u>-18 5686</u>	- <u>18 2079</u>	- <u>178737</u>	-17 5534	19 0019

Transpose Worksheet

• •	• • •	• •							
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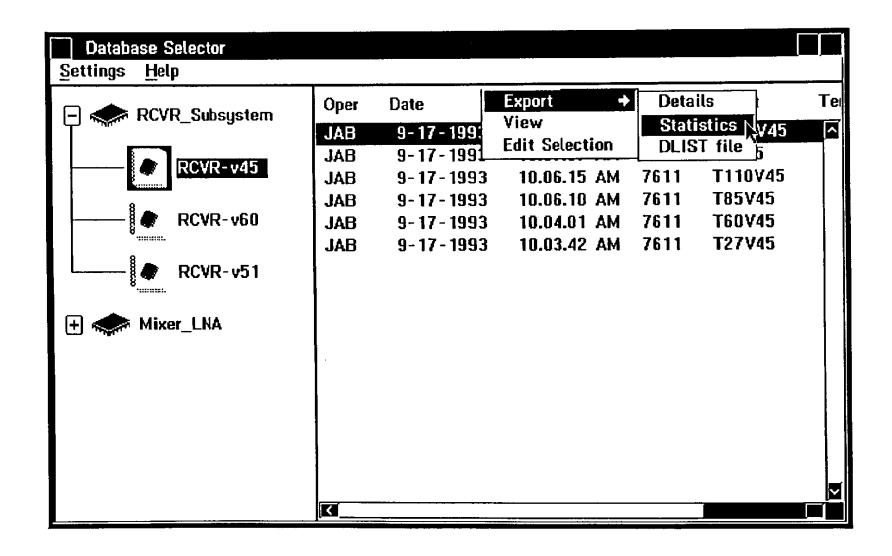
JbWorksheet						
<u>File Options</u> Inspec	ct <u>H</u> elp			- 		
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Transpose	Standby ICC	LoBulfer	LoBuffer	LoBuffer	LoBuffer	LoBuffer
	-	Frency: 900.	0, P Francy: 900.0), P Francy: 970.0	D, P Francy: 970.0	D, P Figncy: 104
Device: 1	0.71622e-2	18.5982	-18.2146	-17.9689	-17.634	-19.1464
Device: 2	0.70946e-2	-18.6002	-18.2254	·17.9314	-17.5964	-19.0637
Device: 3	0.70946e-2	-18,7284	-18.3636	-18.0569	-17.7346	-19.1877
Device: 4	0.70946e-2	-18.6373	-18.2692	-17.9543	-17.6226	-19.1066
Device: 5	0.71622e-2	-18.4354	-18.089	-17.7702	-17.4532	-18.8746
Device: 6	0.72297e-2	-18.6753	18.3095	-17.9998	-17.679	-19.1468
Device: 7	0.71622e-2	-18 5159	-18.1404	-17.8544	- 17 .5311	-18.9793
Device: 8	0.72297 e-2	-18 4823	-18.1271	-17.8123	-17.497 9	-18.9404
Device: 9	0.70946e-2	-18.5698	-18.2184	17.9055	-17.5916	-19.0617
Device: 10	0.72297e-2	18.5135	-18.1615	-17.8577	17.5425	-18.9905
Device: 11	0.72973e-2	18.5039	-18.1412	-17.861	-17.5378	-19.0056
Device: 12	0.72297e-2	-18.4216	-18.071	-17.7437	-17.4429	-18.8786
Device: 13	0.73649e-2	-18.3786	-18.0268	-17.6976	-17.3848	-18.8785
Device: 14	0.71622e-2	-18.4613	-18.1399	-17.7891	·17.4973	-18.9804
Device: 15	0.70946e-2	-18.5856	-18.2635	-17.9072	17.6205	-19.1032
Device: 16	0.70946e-2	-18.5442	-18.2156	-17.8665	-17.5715	-19.0557
Device: 17	0.75e-2	-18.1762	-17.8197	-17.4968	-17.1769	-18.6478
Device: 18	0.736 49e- 2	-18.3164	-17.9602	-17.6425	-17.3325	-18.7849
Device: 19	0.72297e-2	-18.3722	-18.0363	·17.7259	-17.4152	-18.8727
Device: 20	0.736 49e- 2	-18.3299	-17.9937	-17.633	-17.3392	18.7868
Device: 21	0.74324e-2	-18.1016	-17.7367	·17.4186	-17.0929	-18.5612
Device: 22	0.7297 3e •2	-18.4073	-18.0688	-17.7318	-17.44	-18.8876
Device: 23	0.72973e-2	-18.4205	-18.0965	·17.735	-17.4421	-18.9068
Device: 24	0.72973e-2	-18.2567	-17.9424	-17.5895	-17.3175	-18.7646
Device: 25	0.72297e-2	-18.4621	-18.1223	·17.7829	-17.4869	-18.9112
Device: 26	0.72297e-2	-18.4936	-18.1572	-17.8268	-17.5265	-18.9481
Device: 27	0.72297e-2	-18.5722	-18.2385	-17.9134	-17.621	-19.047
Device: 28	0.72973e-2	-18.348	-18.014	·17.6539	-17.3629	18.758
Device: 29	0 71622e-2	<u>-18 5686</u>	-18 2079	-17 8737	-17 5534	-19 0019
	· · · · · · · · · · · · · · · · · · ·					

Transposed Worksheet

• •	٠	•	٠	•	٠	٠	•	•	٠	٠	٠	•	•	۲	•	٠	•	٠	•	٠	٠	•	٠	٠	٠	•	•	•	•	•	•	۲	
-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	--

	rksheet					···	
<u>File Op</u>	tions <u>I</u> nspec	t <u>H</u> elp					·······
			Device: 1	Device: 2	Device: 3	Device: 4	Device: 5
1.1.1.1 1.2.1.1	Sleep ICC			_			
	Standby ICC		0.71622e-2	0.70946e-2	0.70946e-2	0.70946e-2	0.71622e-2
1.3.1.1.1	LoBuffer	Francy: 900.0		-18.6002	-18.7284	-18.6373	-18.4354
1.3.1.1.2	LoBulf e r	Francy: 900.0		-18.2254	-18.3636	-18.2692	-18.089
1.3.1.2.1	LoBuffer	Francy: 970.0		-17.9314	-18.0569	-17.9543	17.7702
1.3.1.2.2	LoBuffer	Frqncy: 970.0		-17.5964	-17.7346	-17.6226	-17.4532
1.3.1.3.1	LoBuffer	Francy: 1040.		-19.0637	-19 .1877	-19.1066	-18.8746
1.3.1.3.2	LoBuffer	Francy: 1040.		-18.7876	18.9147	-18.8393	18.6132
2.1.1.1	Mcik1	Pwc -5.0	0.77908	0.79535	0.85064	0.81186	0.67485
2.1.1.2	Mclk1	Pwi: 0.0	0.78662	0.80007	0.84906	0.81047	0.86613
2.2.1.1	Mclik4	Pwr: -5.0	0.93231	0.96858	0.91379	0.92704	0.91611
2.2.1.2	Mclk4	Pwr: 0.0	0.93264	0.95681	0.91184	0.92586	0.91529
2.3.1.1	Mclk5	Pwr: -5.0	0.65598	0.87021	0.87205	0.86671	0.88152
2.3.1.2	Mclk5	Pwr: 0.0	0.85206	0.86481	0.87927	0.86031	0.88042
2.4.1.1	Cik1By1	Pwr5.0	0.792	0.73894	0.8766	0.7937	0.8679
2.4.1.2	Clk1By1	Pwr: 0.0	0.8048	0.75336	0.87614	0.60728	0.87158
2.5.1.1	Cik1By3	Pwr: -5.0	1.02352	0.98142	1.06226	1.02212	1.01369
2.5.1.2	Clk1By3	Pwr: 0.0	1.00371	1.01307	0.99945	0.94765	1.02811
2.6.1.1	Clk2By1	Pwr: -5.0	0.77873	0.74337	0.89572	0.7778	0.8242
2.6.1.2	Clk2By1	Pwr: 0.0	0.79635	0.76964	0.87693	0.80253	0.82393
2.7.1.1	Clk2By2	Pwr: -5.0	1.1306	1.11605	1.14307	1.13488	1.0844
2.7.1.2	Clk2By2	Pwr: 0.0	1.13208	1.11552	1.14136	1.13326	1.08572
2.8.1.1	PhaseDet6	Pwr: -5.0	0.53175e-2	0.52266e-2	0.5363e-2	0.53403e-2	0.52266e-2
2.8.1.2	PhaseDet6	Pwr: 0.0	0.51357e-2	0.51811e-2	0.53403e-2	0.53403e-2	0.53175e-2
2.9.1.1	PhaseDet7	Pwr: -5.0			_		
2.9.1.2	PhaseDet7	Pwr: 0.0					
2.10.1.1	PhaseDet8	Pwr: -5.0	0.5363e-2	0.54085e-2	0.5363e-2	0.52039e-2	0.54539e-2
2.10.1.2	PhaseDet8	Pwr: 0.0	0.51584e-2	0.52266e-2	0.54085e-2	0.54085e-2	0.52266e-2
2.11.1.1	PhaseDet9	Pwr: -5.0	0.010010 E	0.022000 Z	0,0-0000 E	0.010000.5	0.0220001
2.11.1.2	PhaseDet9	Pwr: 0.0					
3111	AMPS Disable		0.02331	0.02324	0.0231 7	0.02317	0.02351
I			1112.1619	111/2 . 17 9	010.07		

Export Statistics Data



Statistics Data Worksheet

File Op	tions inspec	t Help							
			Mean	Std. Dev.	Min	Мах	Low Spec	Hi Spec	Cρ
11.1	Sleep ICC		0.25338e-2	0.51606e-4	0.24324e-2	0.26351e-2	0.27e-2	0.41e-2	4.52147
21.1	Standby ICC		0.7232e-2	0.10392e-3	0.70946e-2	0.75e-2	0.7e-2	0.0106	5 7736
31.1.1	LoBuffer	Francy: 900.0, F		0.13974	-18.7284	-18.1016	-20.0	-14.0	7 15608
31.1.2	LoBuffer	Francy: 900.0, F		0.13592	-18.3636	-17.7367	-20.0	-14.0	7.35753
31.2.1	LoBuffer	Francy: 970.0, F		0.14399	-18.0569	-17.4186	-20.0	-14.0	6.9447
31.2.2	LoBuffer	Francy: 970.0, F		0.14005	-17.7346	-17.0929	-20.0	-14.0	7 14032
31.3.1	LoBulfer	Francy: 1040.0,		0.14545	-19.1877	-18.5612	-21.0	-14.0	8.02089
.31.3.2	LoBulfer	Frgncy: 1040.0,		0.14151	-18.9147	-18.2969	-21.0	-14.0	8.24462
.1.1.1	Mclk1	Pwr: -5.0	0.82828	0.05836	0.66119	0.93459	0.7	1.4	1.99888
1.1.2	Mclk1	Pwr: 0.0	0.82865	0.05611	0.65972	0.92396	0.7	1.4	2.07901
21.1	Mclk4	Pwr: -5.0	0.92366	0.01976	0.89452	0.9937	0.7	1.4	5 90343
21.2	Mclk4	Pwr: 0.0	0.92251	0.01900	0.89327	0.99116	0.7	1.4	6.1374
.31.1	Mck5	Pwr: -5.0	0.87081	0.03520	0.81404	0.94024	0.7	1.4	3.3141
.31.2	Mclk5	Pwr: 0.0	0.86965	0.03462	0.61498	0.93032	0.7	1.4	3.36912
.41.1	Clk1By1	Pwr: -5.0	0.82984	0.04520	0.73354	0.90402	0.7	1.4	2.58101
41.2	Clk1By1	Pwr: 0.0	0.83129	0.04070	0.7511	0.89411	0.7	1.4	2.86591
.51.1	Clk1By3	Pwr: -5.0	0.99927	0.03677	0.90794	1.07452	0.7	1.4	3.17275
.51.2	Clk1By3	Pwr: 0.0	0.9875	0.03185	0.90437	1.07303	0.7	1.4	3.66286
.61.1	Clk2By1	Pwr: -5.0	0.82545	0.04611	0.72928	0.89572	0.7	1.4	2.53003
.6.1.2	Clk2By1	Pwr: 0.0	0.83002	0.03724	0.7606	0.8891	0.7	1.4	3.13217
.7.1.1	Clk2By2	Pwr: -5.0	1.12156	0.01856	1.0844	1.15698	0.7	1.4	6.28287
.7.1.2	Clk2By2	Pwr: 0.0	1.122	0.01825	1.06572	1.16212	0.7	1.4	6.39228
.81.1	PhaseDet6	Pwr: -5.0	0.52516e-2	0.1097e-3	0.49311e-2	0.54312e-2	0.5e-2	0.6e-2	1.51927
.81.2	PhaseDet6	Pwr: 0.0	0.52675e-2	0.10019e-3	0.5022e-2	0.54312e-2	0.5e-2	0.6e-2	1.66349
.9.1.1	PhaseDet7	Pwr: -5.0	0.45083e-2	0.31271e-3	0.42492e-2	0.53403e-2	0.5e-2	0.6e-2	0.53298
.9.1.2	PhaseDet7	Pwr: 0.0	0.44984e-2	0.2834e-3	0.42492e-2	0.52721e-2	0.5e-2	0.6e-2	0.5881
.10.1.1	PhaseDet6	Pwr: -5.0	0.526e-2	0.1169e-3	0.49538e-2	0.54539e-2	0.5e-2	0.6e-2	1.42566
.10.1.2	PhaseDet8	Pwr: 0.0	0.52986e-2	0.1126e-3	0.5022e-2	0.54539e-2	0.5e-2	0.6e-2	1.48011
.11.1.1	PhaseDet9	Pwr: -5.0	0.4728e-2	0.20433e-3	0.4431e-2	0.53403e-2	0.5e-2	0.6e-2	0.81569
211.1.2	PhaseDet9	Pwr: 0.0	0.47318e-2	0.20615e-3	0.44992e-2	0.52948e-2	0.5e-2	0.6e-2	0.80847
1 <u>11</u>	AMPS Disable		0.02371	0.31426e-3	0.02317	0.02439	0.002	0.002	6 68237

Other Data Selector Settings

Database Selector Settings Help ✓ Exclude retests Tei Time Lot Sublot Oper Date ✓ Group lot names N^{system} $\overline{}$ TM45V45 9-17-1993 7611 JAB 10.07.46 AM 7611 T0V45 9-17-1993 10.07.07 AM **JAB** RCVR-v45 T110V45 7611 JAB 9-17-1993 10.06.15 AM 7611 T85V45 9-17-1993 10.06.10 AM JAB RCVR-v60 T60V45 9-17-1993 10.04.01 AM 7611 JAB -----9-17-1993 10.03.42 AM 7611 T27V45 JAB RCVR-v51 Mixer_LNA + ٢

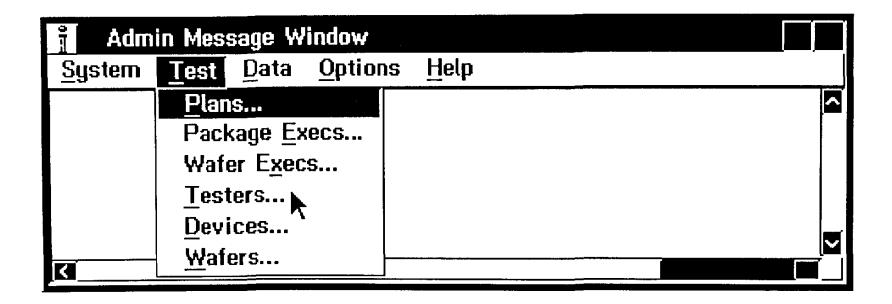
Ungroup Lot and Sublot Names

Exclude retests	Oper	Date	Time	Lot	Sublot
Group lot names system	JAB	9-17-1993	10.07.46 AM	7611	TM45V45
	JAB	9-17-1993	10.07.07 AM	7611	T0V45
RCVR-v45	JAB	9-17-1993	10.06.47 AM	7611	T0V45
8	JAB	9-17-1993	10.06.15 AM	7611	T110V45
	JAB	9-17-1993	10.06.10 AM	7611	T85V45
•	JAB	9-17-1993	10.04.01 AM	7611	T60 V45
	JAB	9-17-1993	10.03.42 AM	7611	T27V45
	JAB	9-17-1993	10.03.26 AM	761 1	T27V45
Mixer_LNA					

Managing Testers

- Active and Edit Testers
- Edit Tester Functions: Activate, View, Copy or Delete
- Active Tester Function: Configuring the Instrumentation
- Active Tester Function: Inspecting Calibration Data
- Active Tester Function: Setting Idle States
- Active Tester Function: Manual Control of the Tester
- Active Tester Functions: Deactivate, Startup, Save & Copy

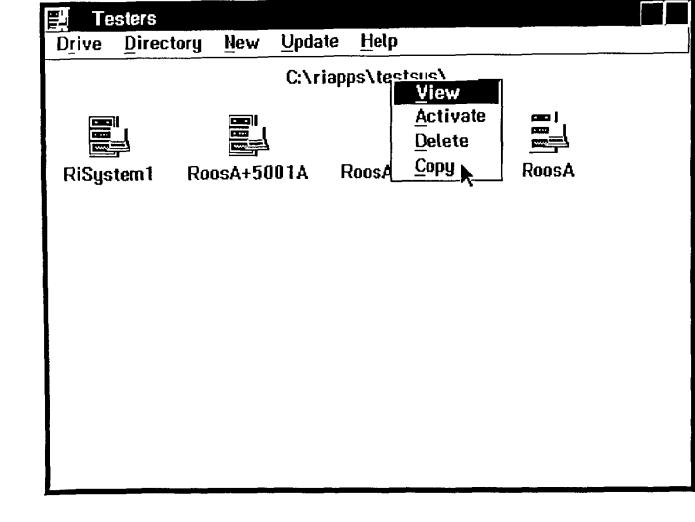
Opening the Testers Container Window



Active vs Edit Testers

Testers				
D <u>r</u> ive <u>D</u> irect	ory <u>N</u> ew U	lpdate <u>H</u> elp		
	(C:\riapps\testsy	5\	
				•
RiSystem1	RoosA+5001	A RoosA+Src	2+ECD RoosA	•

Edit Testers: Activate, View, Copy & Delete



Active Tester Functions: Configure

Testers Update Help Directory Drive New Handler Deactivate C:\riapps\testsys\ Startup Enable 1880 Control Configure Rq RoosA+Src2+ECD RoosA+5001A RiSystem1 Idle State Save <u>Copy</u>

Tester Configuration Window

RoosA Configuration		
Instrument Handler Fix	ure Tester Help	
inActive Prober PW Probe	5 Autoprober 0	
Receiver RI7310A Comp	lex Detector 0	
Rifl R1125 Fiber Optic L	ink Controller 0	
Source Proto RI7730A .01	- 20 Ghz System Source 0	
System System Resources		
TestHead RI7212B 20 Gh	A REFLO VESCI NEBU 4	ſ
vna RI7802A Virtural Vec	tor Network Analyzer 0 🦹	
	RECEIVER	
NO DE	Receiver	
2		
	SOURCE 1	
	Source	
	SOURCE2	
	ImSrc	
	MKERLO	

Configuring the Tester's Instrumentation

RoosA Configu	
Instrument Handl	er <u>F</u> ixture <u>T</u> ester <u>H</u> elp
Calibration +	Y Probe 5 Autoprober 0
<u>A</u> dd	Complex Detector 0
	Optic Link Controller 0
Rename	BOA .01 - 20 Ghz System Source 0
Remove	sources 0
Replace	20 Ghz RFIC test head 4 ral Vector Network Analyzer 0
Compile <u>O</u> rder	
<u>U</u> pdate	
√ <u>E</u> nable	RECEIVER
2	Receiver
·	SOURCE 1
	Source
	SQURCE 2
	ImSic
	MKER LO
	Dutto

Activating an Instrument

RoosA Configuration Instrument Handler Fixture Tester Help ImSrc HP 83620A .01-20 GHz synthesized sweeper 0 intermod RI7805A Intermod Inst 0 nfm RI7801A Virtural Noise Figure Meter 0 Operator Operator 0 inActive Prober PW Probe 5 Autoprober 0 F Receiver RI7310A Complex Detector 0 Rifl RI125 Fiber Optic Link Controller 0 NODE 7 **Roos Instruments**

Activating an Instrument (Continued)

Instrument Handler Fixture Tester Help Calibration → .01-20 GHz synthesized sweeper 0 Add Intermod Inst 0 Description ural Noise Figure Meter 0 Rename 0 Remove V Probe 5 Autoprober 0 Description Complex Detector 0
Add Intermod Inst 0 Description ural Noise Figure Meter 0 Rename 0 Remove V Probe 5 Autoprober 0
Description ural Noise Figure Meter 0 Rename 0 Remove V Probe 5 Autoprober
Rename 0 Remove V Probe 5 Autoprober 0
Remaine V Probe 5 Autoprober 0
Replace Optic Link Controller 0
Compile Order
<u>U</u> pdate
Enable

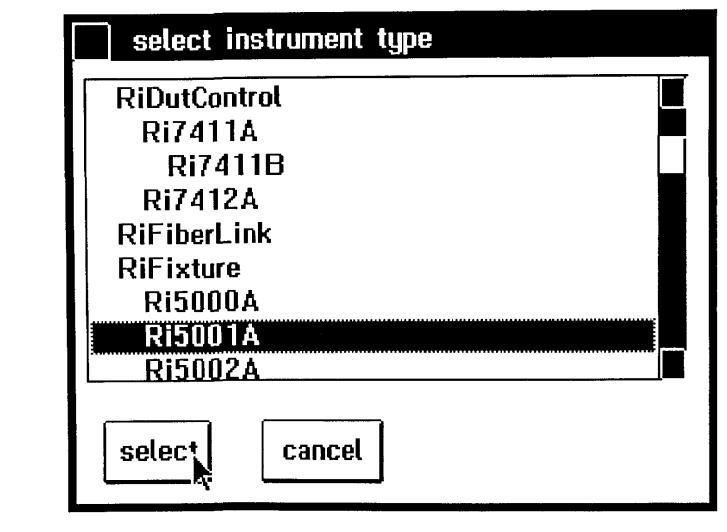
Activating an Instrument (Continued)

RoosA Configuration	
Instrument Handler Fixture Tester Help	
ImSrc HP 83620A .01-20 GHz synthesized sweeper 0 intermod RI7805A Intermod Inst 0	
nfm RI7801A Virtural Noise Figure Meter 0 Operator Operator 0	
Prober PW Probe 5 Autoprober 0 N	
Receiver R17310A Complex Detector 0	
Rifl RI125 Fiber Optic Link Controller 0	
NODE 7	

Adding a New Instrument

RoosA Configuration Instrument Handler Fixture Tester Help Calibration ➔ // Probe 5 Autoprober 0 Complex Detector 0 Add N Optic Link Controller 0 Description βOA .01 - 20 Ghz System Source O Rename sources O Remove 20 Ghz RFIC test head 4 Replace ral Vector Network Analyzer 0 Compile Order Update **√Enable** RECEIVER #2DC Receiver 2 SOURCEI Source SOURCE 2 **m**Src MIXER LO Dutto

Adding a New Instrument (Continued)



Opening Maintenance Log Window

RoosA Configuration	
Instrument Handler Fixture Tester Help	
DownConvert Proto R17360A .0 Change RIFL converter 0	A
DutCtl RI7412A Device Control Update Panels	
DutLo HP 83623A .01-20 GHz <u>B</u> rowse ized sweeper 0 Fixture Ri5004A 4 Probes 0 Idle State	
acm DI7800 A Coin Companyed	
Gpib RI7300A Mainframe with an as communication	
Handler Aetrium 900A Handler 0	
	L

Maintenance Log Window

C:\riapps\testsys\RoosA.mtn File Edit Smalltalk Help 26-Jun-94 08.21.33 AM Enter Changes you have made to the Tester Configuration. ि \rightarrow

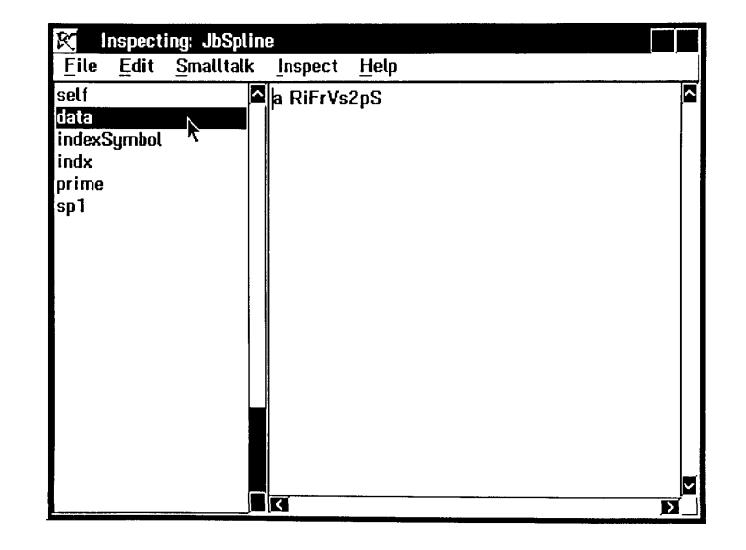
Inspecting Calibration Data

RoosA Configuration Instrument Handler Fixture Tester Help Calibration **→** ober 0 Inspect Add tor 0 Ϋ́ Save oller 0 Description Load z System Source 0 Rename Reset Remove Update Prom st head 4 Replace ral Vector Network Analyzer 0 **Compile Order** Update ∠ Enable RECEIVER ****CC Receiver 2 SOURCE Source SOURCE 2 **mSrc** MIKERLO Dutto

Inspecting Calibration Data (Continued)

inspecting: IdentityDict File Edit Smalltalk Dic	tionary Help	
~ _	Spline	
extSrc		
gainRatio		
intermodRatio		
port12EA		
port13EA		
port14EA		
port1EA		
port1ENR		
portiGain		
port1Nf		
port1NoiseGain		
port1Rec		
port1Src		
port23EA		
part24EA		
port2EA		
port2ENR		
port2Gain		
port2Nf		
port2NoiseGain		
port2Rec		
port2Src		
port34EA		
port3EA		
port3ENR		
port3Nf		
port3NoiseGain		
port3Rec		
port3Src		
port4EA		
port4ENR		
port4Nf		
port4NoiseGain 🛛 🗖 🗹		

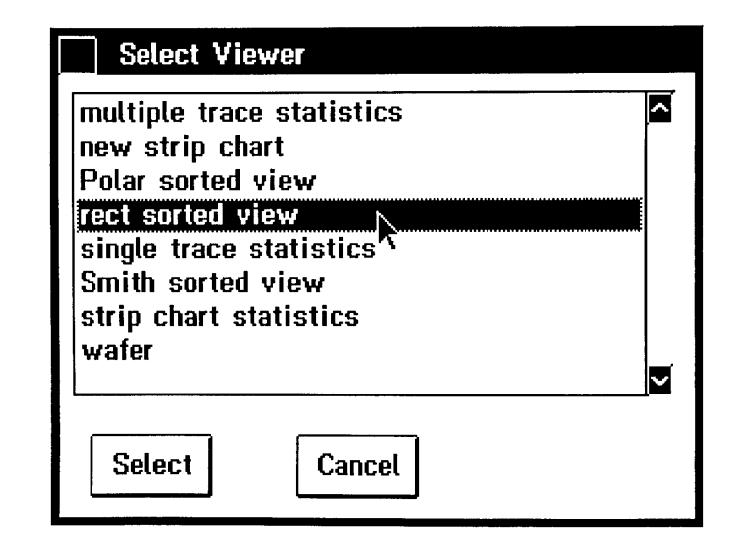
Inspecting Calibration Data (Continued)



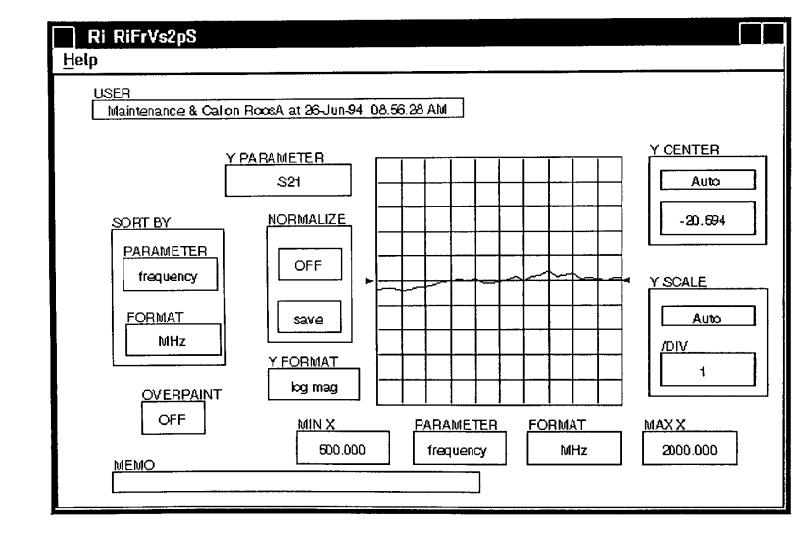
Inspecting Calibration Data (Continued)

self	<u>RiData H</u> elp Inspect		freq 500.0	
1 2 3	Inspect Bytes		s11 (0.0 + j0.0) s12 (10.9696187 + j1.88920403) s21 (8.85349044e-2 - j1.52476127e-2)	
4 5 6	File out `` Edit tag Edit color	1	s22 (0.0 + j0.0)	
7 8	Edit Location <u>D</u> elete			
9 10 11	Add			
12 13 14				
15 16 17				
17 18 19				
20 21				

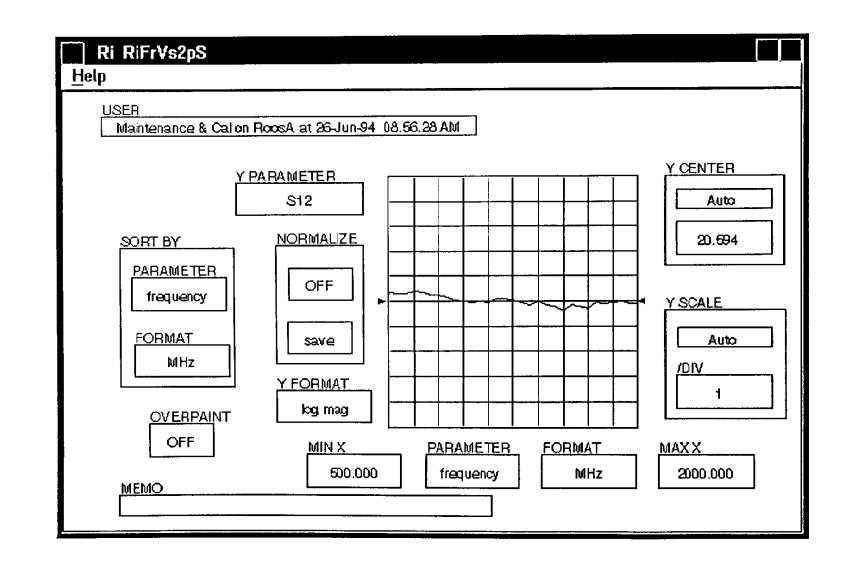
Selecting a Viewer for the Cal Data Selected



S21 Cal Data for Test Head port12EA



SI2 Cal Data for Test Head Port I2EA



SI2 Cal Data for PortI2EA - Phase

Ri RiFr¥s2pS Help USER Maintenance & Calon RoosA at 26-Jun-94 08.56.28 AM **Y CENTER** Y PARAMETER S12 Auto NORMALIZE 25.13 SORT BY PARAMETER OFF frequency Y SCALE -FORMAT Auto save MHz **VION** Y FORMAT 5 phase OVERPAINT OFF MIN X PARAMETER FORMAT MAXX 2000.000 500.000 frequency MHz MEMO

Roos Instruments

Other Instrument Calibration Functions

RoosA Configu	ration
Instrument Handl	er Eixture <u>T</u> ester <u>H</u> elp
<u>Calibration</u> \rightarrow	Inspect ober 0
<u>A</u> dd	Save tor 0
<u>D</u> escription	Load T pller U
Re <u>n</u> ame	Reset z System Source 0
Remove	Update Prom st head 4
Replace	ral Vector Network Analyzer 0
Compile <u>O</u> rder	
<u>U</u> pdate	
✓ <u>E</u> nable	RECEIVER
2	Receiver
	SOURCE 1
	Source
	SOURCE 2
	ImSrc
	Duto

Active Tester Function: Control

E Testers			Handler	
D <u>r</u> ive <u>D</u> irectory <u>N</u> ew <u>U</u> pdate <u>H</u> elp			De <u>a</u> ctivate	
	C:\riapps\te	ests	Start <u>u</u> p	
			Enable	
			Control Configure	
RiSystem1 RoosA+		R	Idle State	
J			Save	
			 Сору	

Roos Instruments

Tester Manual Control Window - RoosA

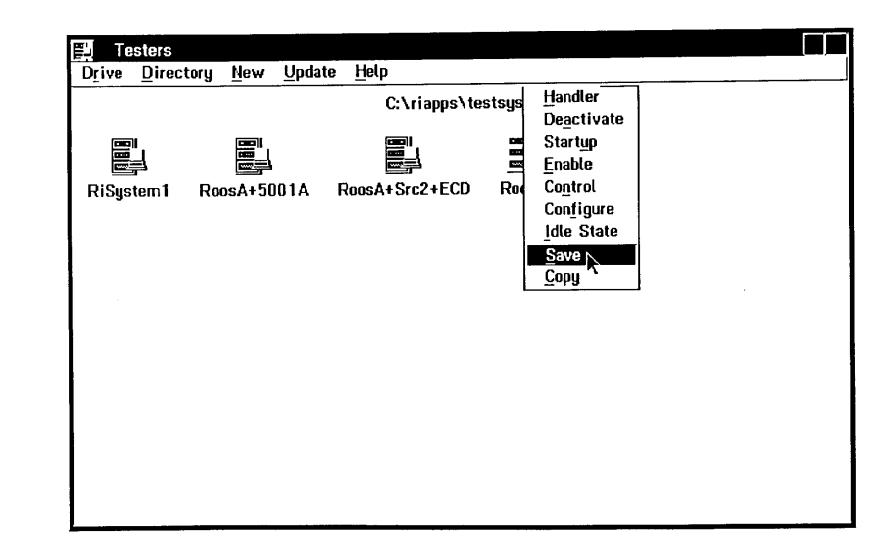
Roa	sA Controller				
Tester	<u>I</u> nstrument	<u>H</u> elp `			
DutCtl			control panel		`
DutLo			waveform control		
Fixture					
gcm					
Gpib					
Handler					
ImSrc			ļ		
			NOFF VOLTAGE MEA	IS RANGE VOLTAGE MEAS MODE	
V00 1	ICC1			V MEASIN	
0	50.3	o∰	0FF 554	5.54	
<u>V00 2</u>	<u></u>	CONTROL 2	TROBE 2 VMEAS2	V MERSEN	
0	-63.6 U	Off-	©FF <u>5.03</u>	5.03	
<u> </u>	юса		LOCK YMEASS	V MEASON	
	51.4			5.03	
<u>voc 4</u>				VMEASHN	
0			017	500	
POWER V 1	POWEBICC				
•	-0.013125	~-			
	CURRENT MEAS RAN	(iit:			
	1 am p				<u></u>

Other Active Tester Functions

Drive Direct	toru New Unda	te Helo			
Drive Direct	tory <u>New Upda</u> RoosA+5001A	te Help C:\riapps\te	Ro	Handler Deactivate Startup Enable Control Configure Idle State Save Copy	

Ì **Roos Instruments**

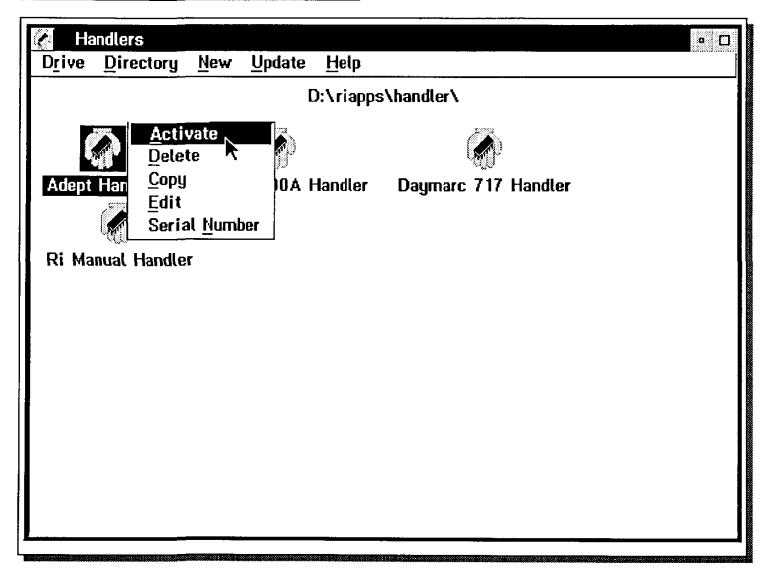
Changes are Only <u>Permanent</u> when Saved!!



Opening the Handler Container Window

nbA f	in Message Window	
<u>S</u> ystem	<u>T</u> est <u>D</u> ata <u>Options</u> <u>H</u> elp	
	Plans	~
	Package <u>Execs</u>	
,	Wafer E <u>x</u> ecs	
i .	<u>T</u> esters	
	<u>D</u> evices	
	<u>D</u> evice Interfaces	
	<u>F</u> ixtures	
	Handlers	
	<u>W</u> afers	

Handler Container Window Functions



Defining the Handler Options

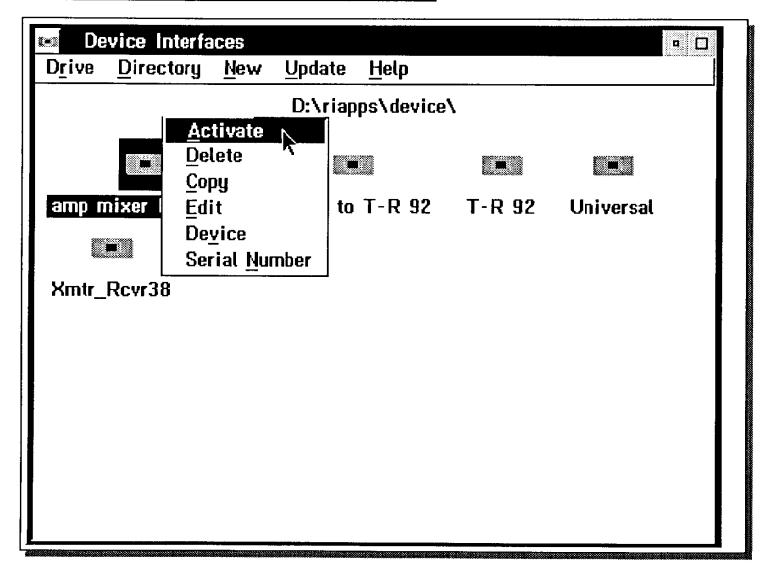
.

∠ Handler Options	3	· · · · · · · · · · · · · · · · · · ·	
Category	Bin		
Standard Pass	1	Minimum Delay (ms)	0
Premium Pass	1	Maximum Wait (s)	15
Standard Fail	2		
Continuity Fail	2		
Special Fail 1	2		
Special Fail 2	2		
Special Fail 3	2		
Special Fail 4	2		
Special Fail 5	2		ľ
Special Fail 6	2		
Retest 📐	3		
	ОК	Cancel	
	J		

Opening the Device Interface Container Window

Admin Message Win	Idow	• 🗆
<u>Sy</u> stem <u>Test</u> <u>D</u> ata	Options Help	
<u>P</u> lans		
Package Exec	cs	
Wafer E <u>x</u> ecs.		
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Devices		
<u>D</u> evice Interf	aces.	
<u>F</u> ixtures	^	
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Device Interface Container Window Functions



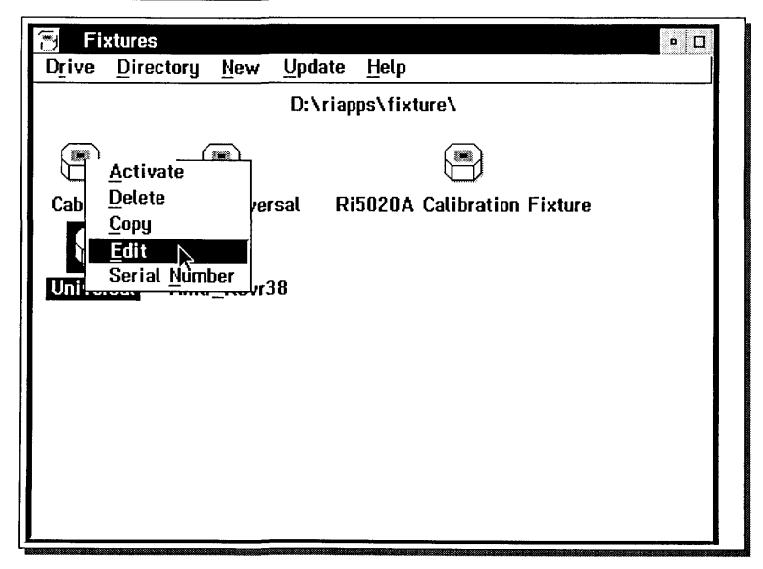
Defining the Device Interface

∠ Device Inte	erface Definiti	on for amp mi	xer Interfac	8	
Fixture Type	<any></any>	📱 Fixtu	ıre Name <	Any>	ĩ
Master Cal	<none></none>	¥.			
_F Paths——					,]
Device P	'in >> Fixture	• Connection			
1 Vcc 2	Mixer	>> P10 >> nil			
3 LNA	input	>> RF3			
4		>> nil >> nil	1		
6 Mixe	r Input	>> RF4 >> nil			
8 Powe	er Down	>> P5			
9 IF ou 10	Lt	>> RF2 >> nil		v	
Fixture (Connection	RF3	·	X	
Calibrati	on Type [None		¥ Inspect	
	ОК	Ca	ncel		

Opening the Fixtures Container Window

Admin Message Window	• 🖸
<u>System Test Data Options</u>	Help
<u>P</u> lans	
Package <u>E</u> xecs	
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Devices	
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Fixtures	
Handlers	
<u>W</u> afers	

Fixture Container Window Functions



Defining the Fixture

 Fixture Definition Fixture Type RiStdFixtureA Control Switch Size (Bytes) 1 Edit DUT Interface Pins 	
Paths DUT IF Testhead Pin Pin Mode Switch Description RF2 2 A RF3 3 RF4 4 Delete Description:	
OK Cancel	