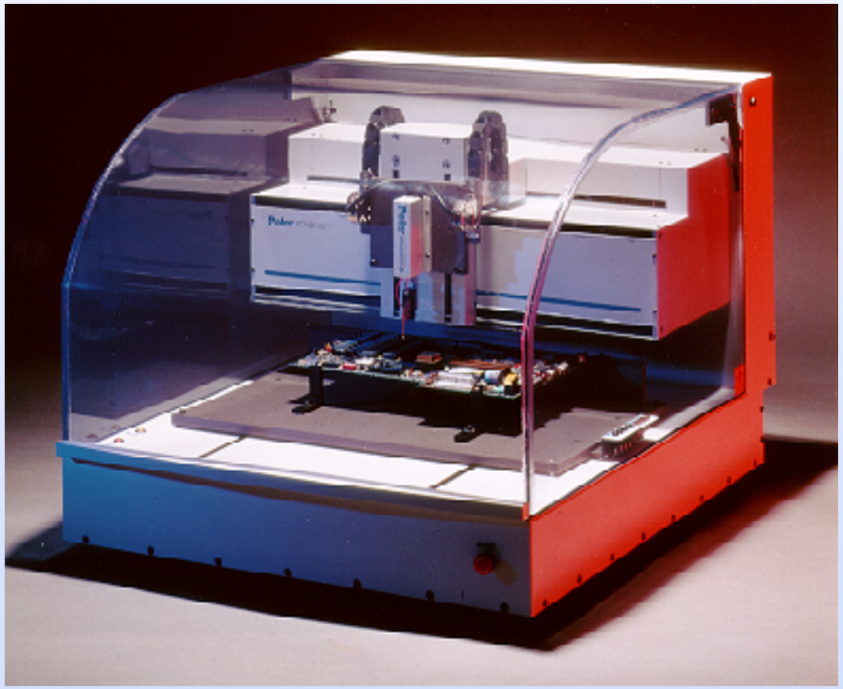
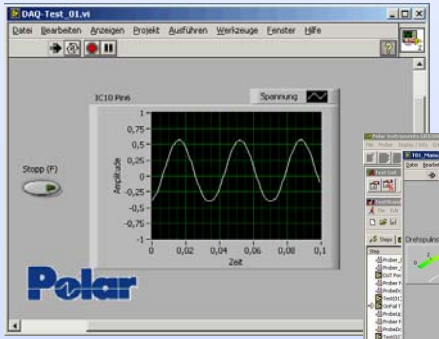
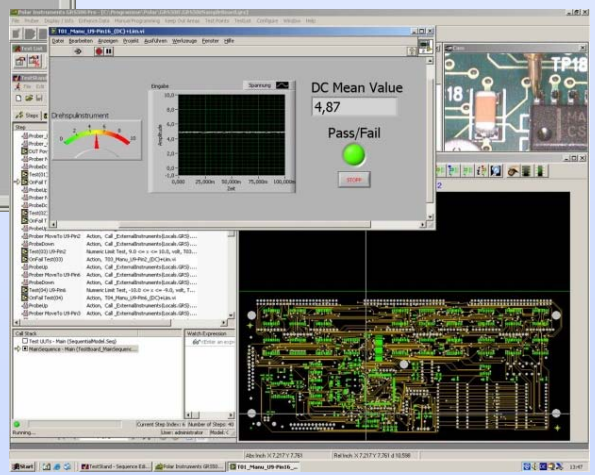
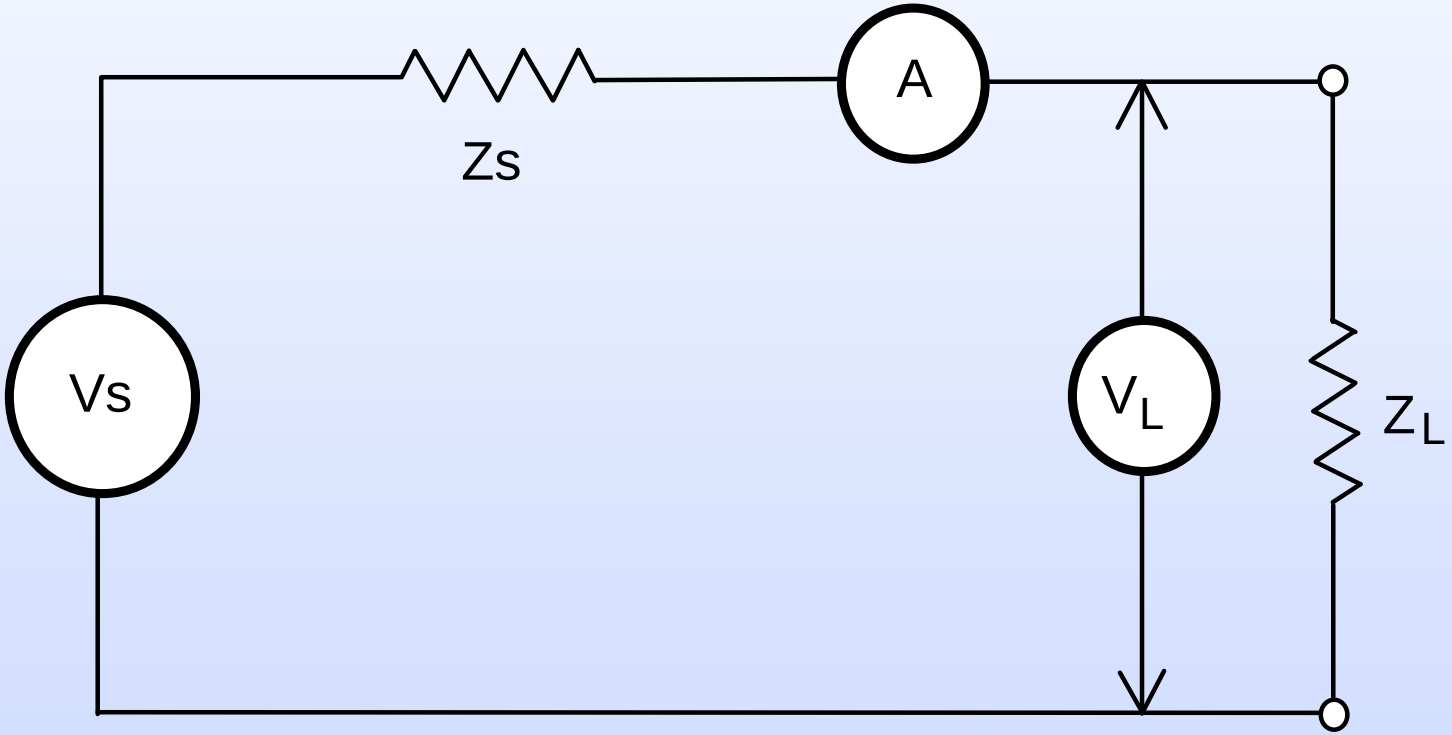
GRS550 Active Test Option

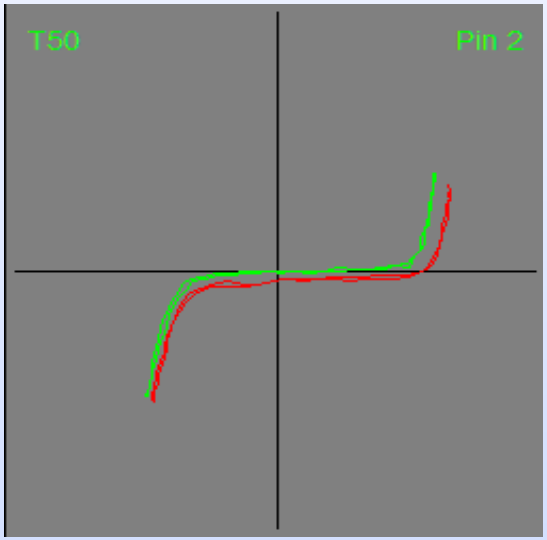




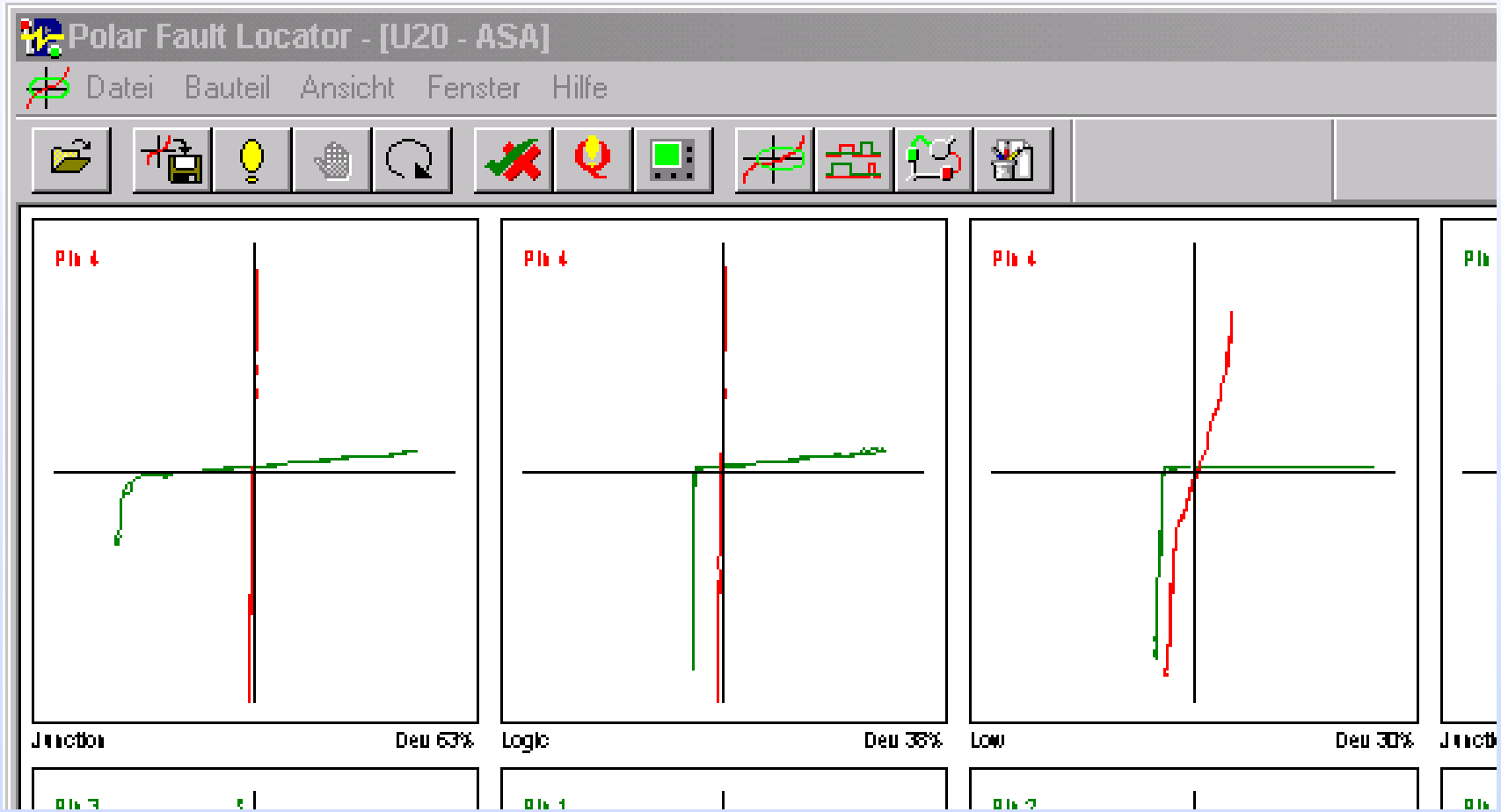


Analog Signature Analysis

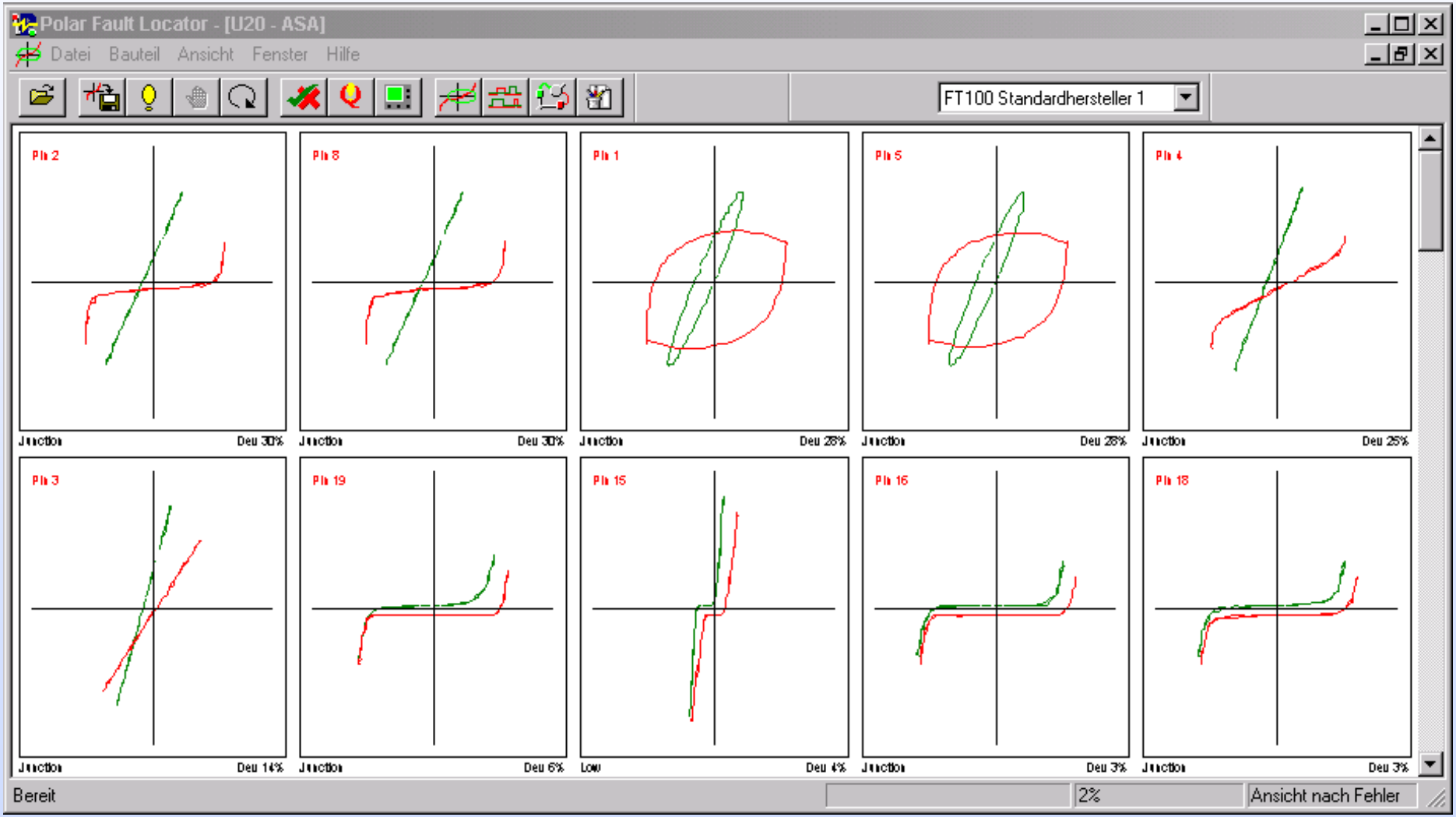




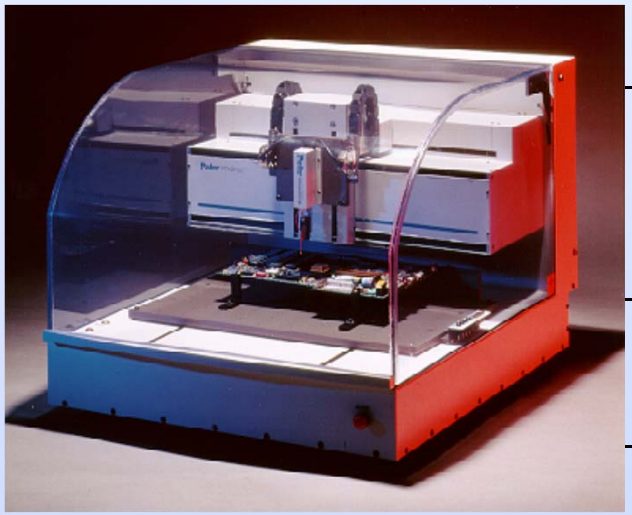
Typical ASA Faults

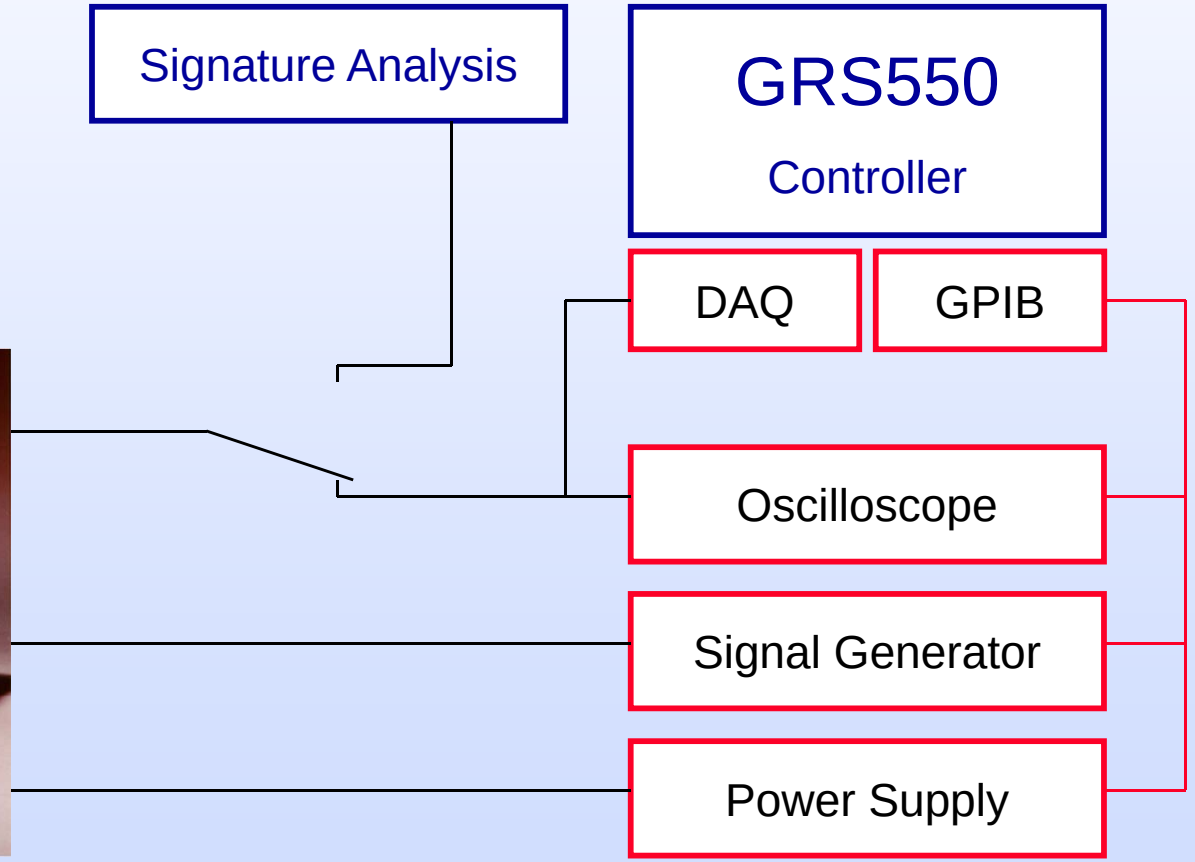


Typical ASA Faults



GRS550 Active Test Option





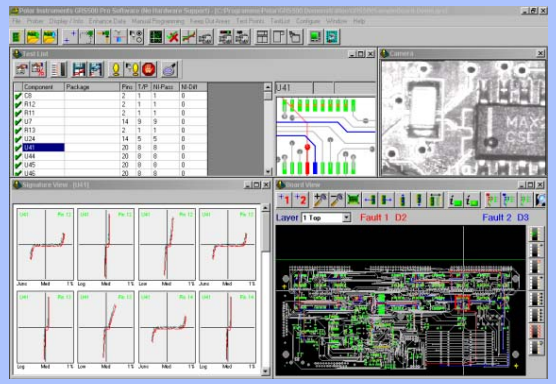
GRS550 Active Test Option

GRS550

Controller

GRS550

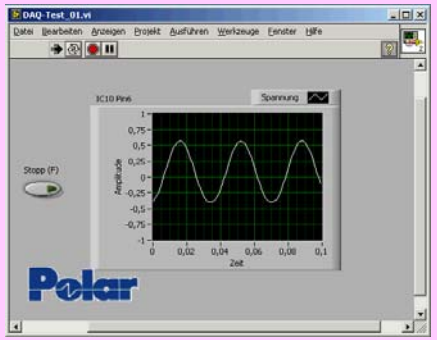
Software



National

Instruments

LabView



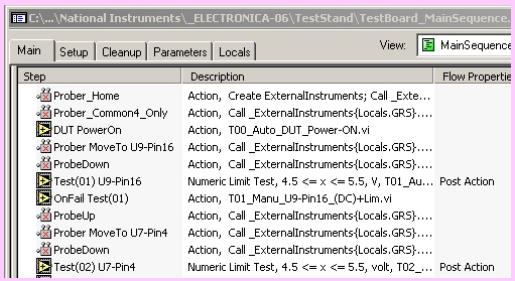
GPIB

USB

National

Instruments

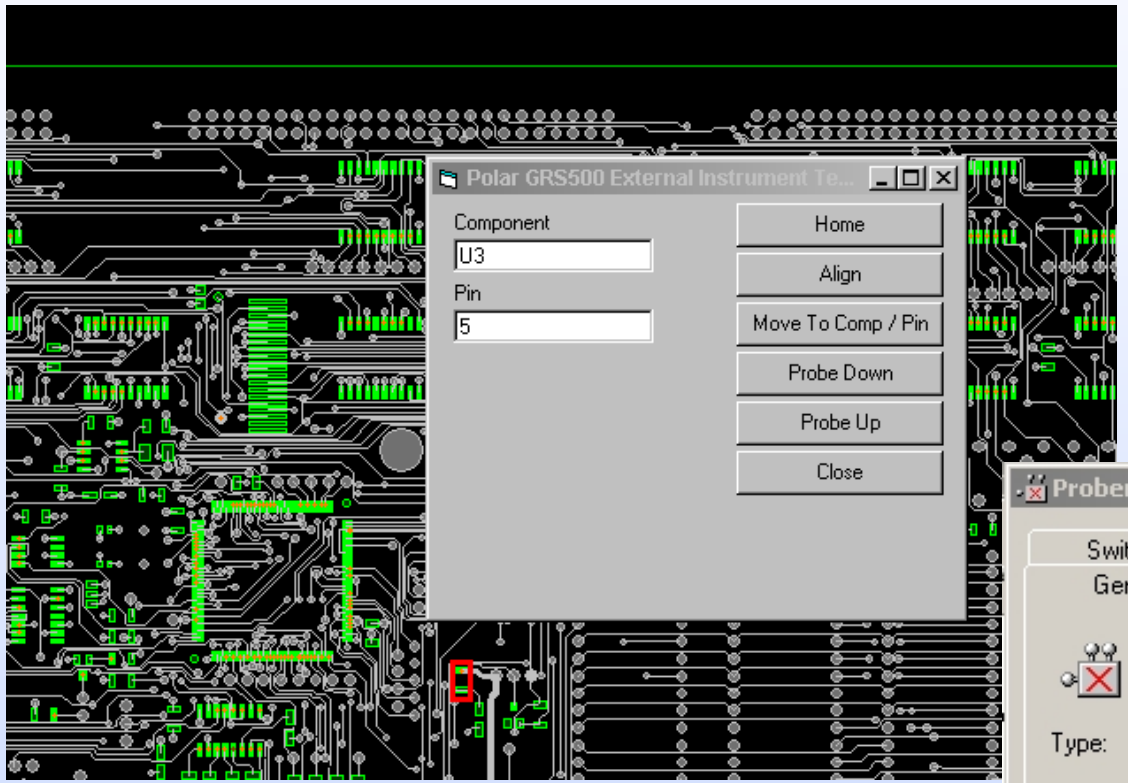
TestStand



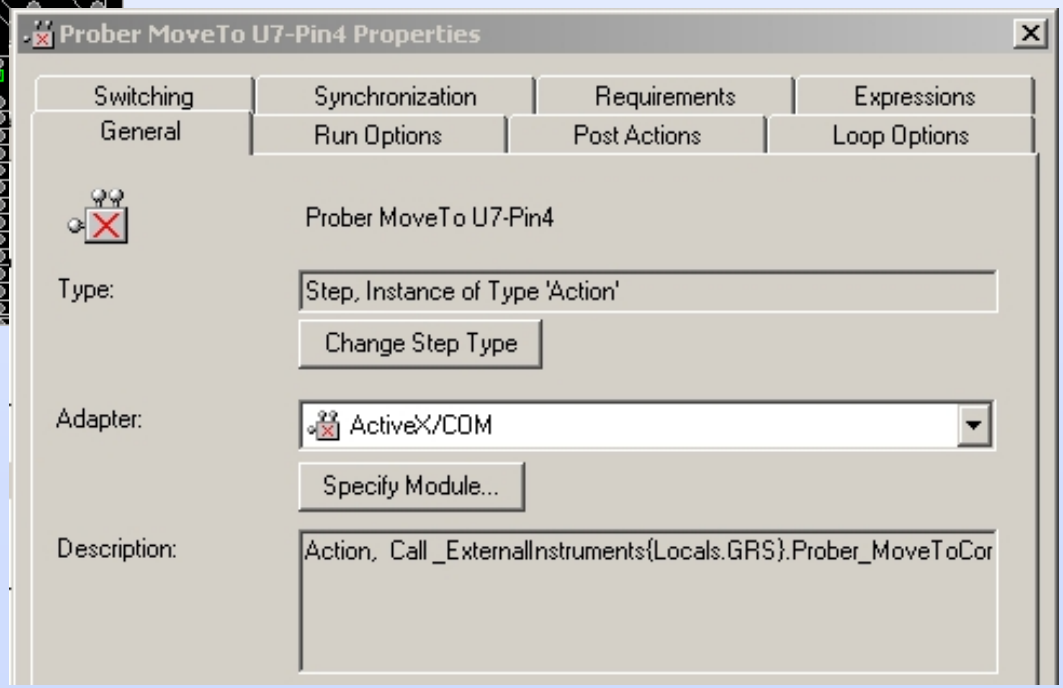
RS232

PCI

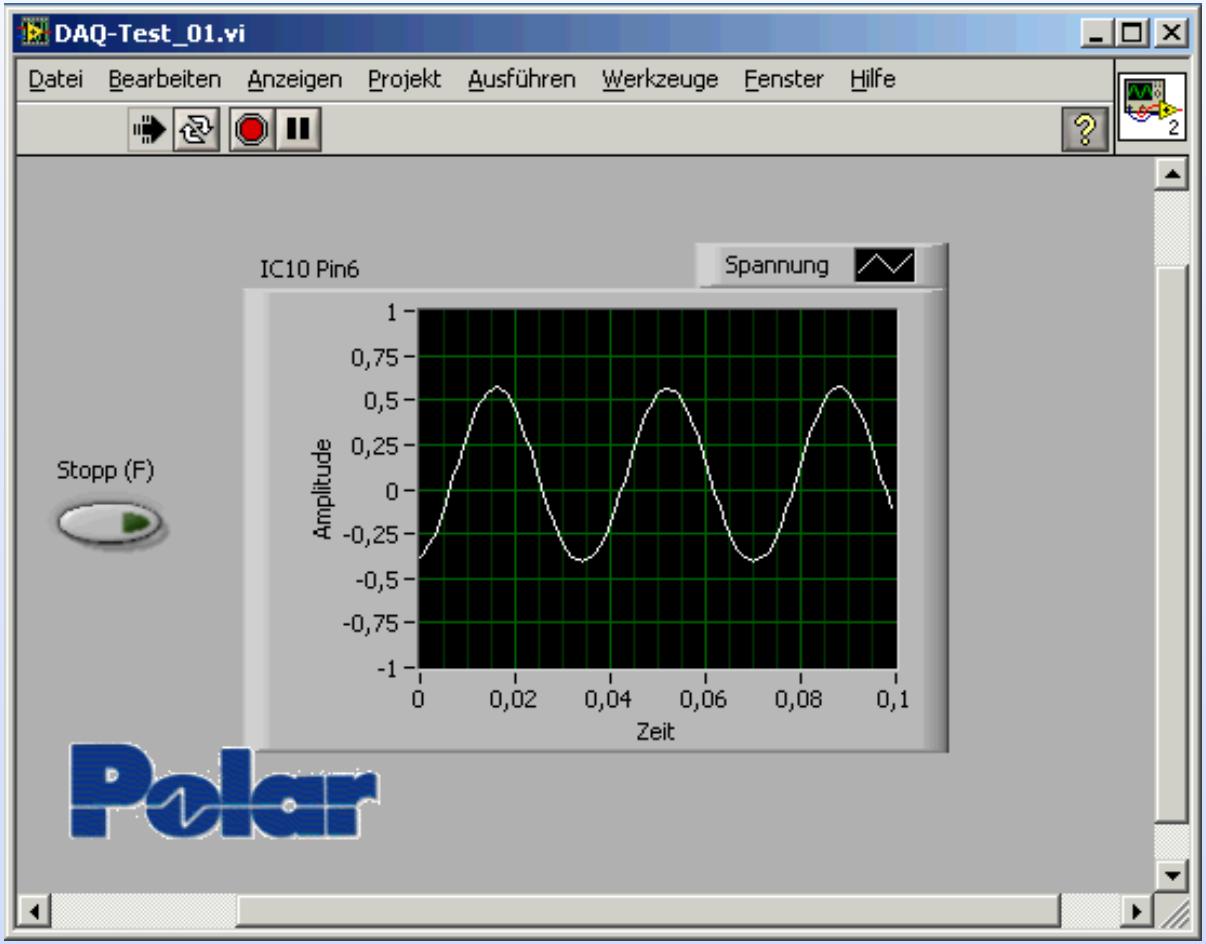
GRS550 External Instruments



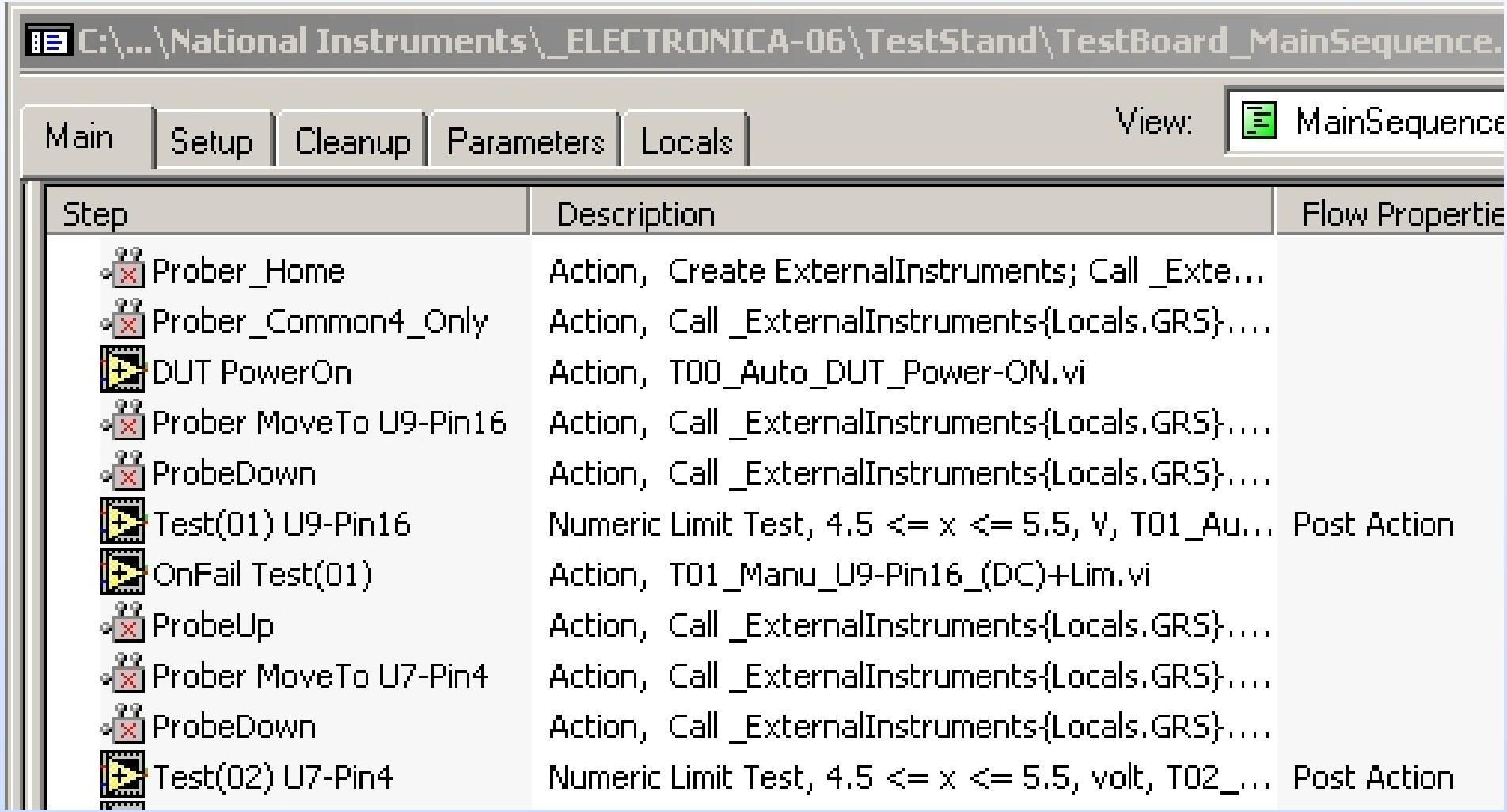
NI TestStand

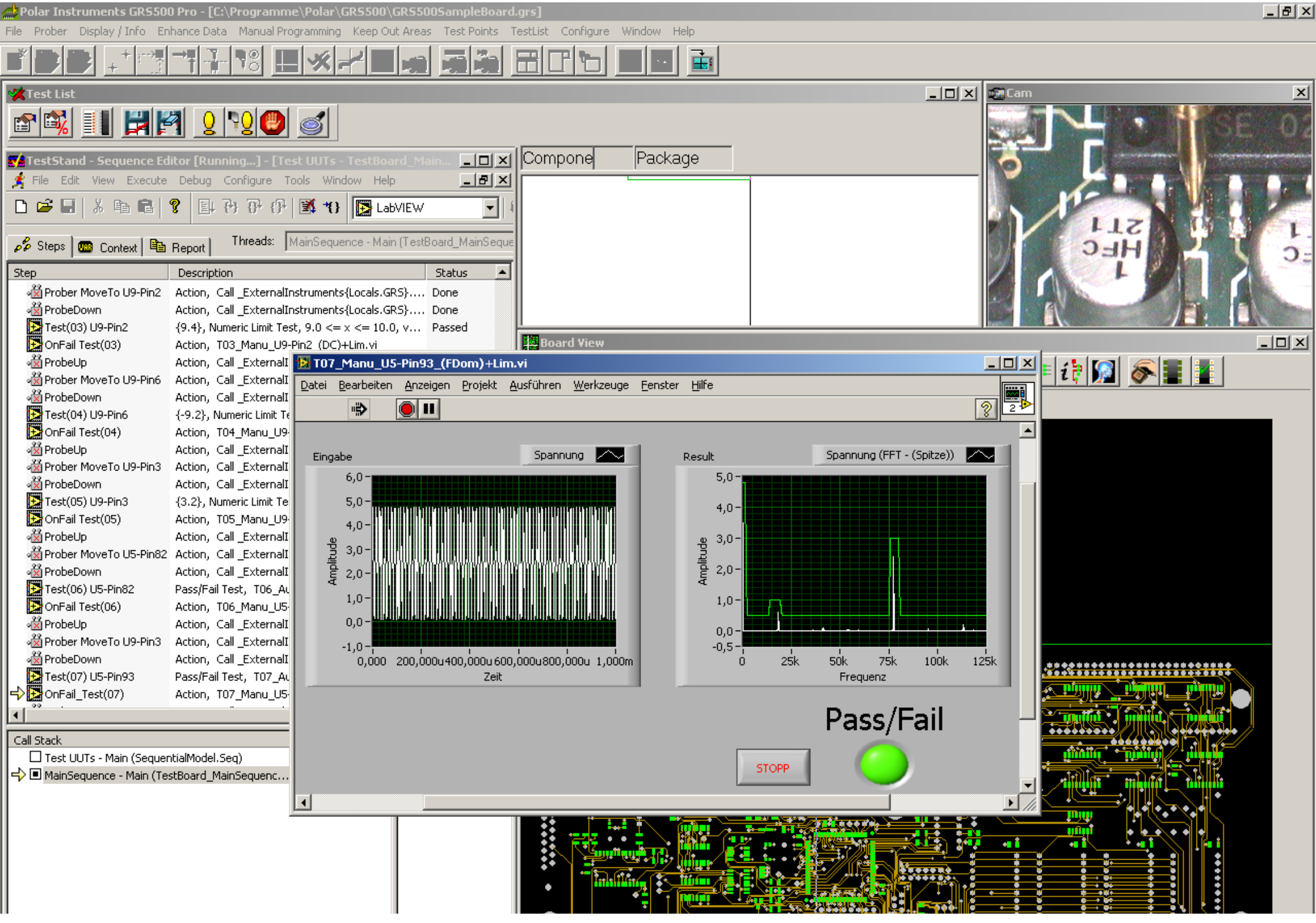


LabView


DAQ-Test_01.vi
Datei Bearbeiten Anzeigen Projekt Ausführen Werkzeuge Fenster Hilfe
IC10 Pin6
Spannung
Stopp (F)
Amplitude
1
0,75
0,5
0,25
0
-0,25
-0,5
-0,75
-1
0
0,02
0,04
0,06
0,08
0,1
Zeit
Polar

TestStand

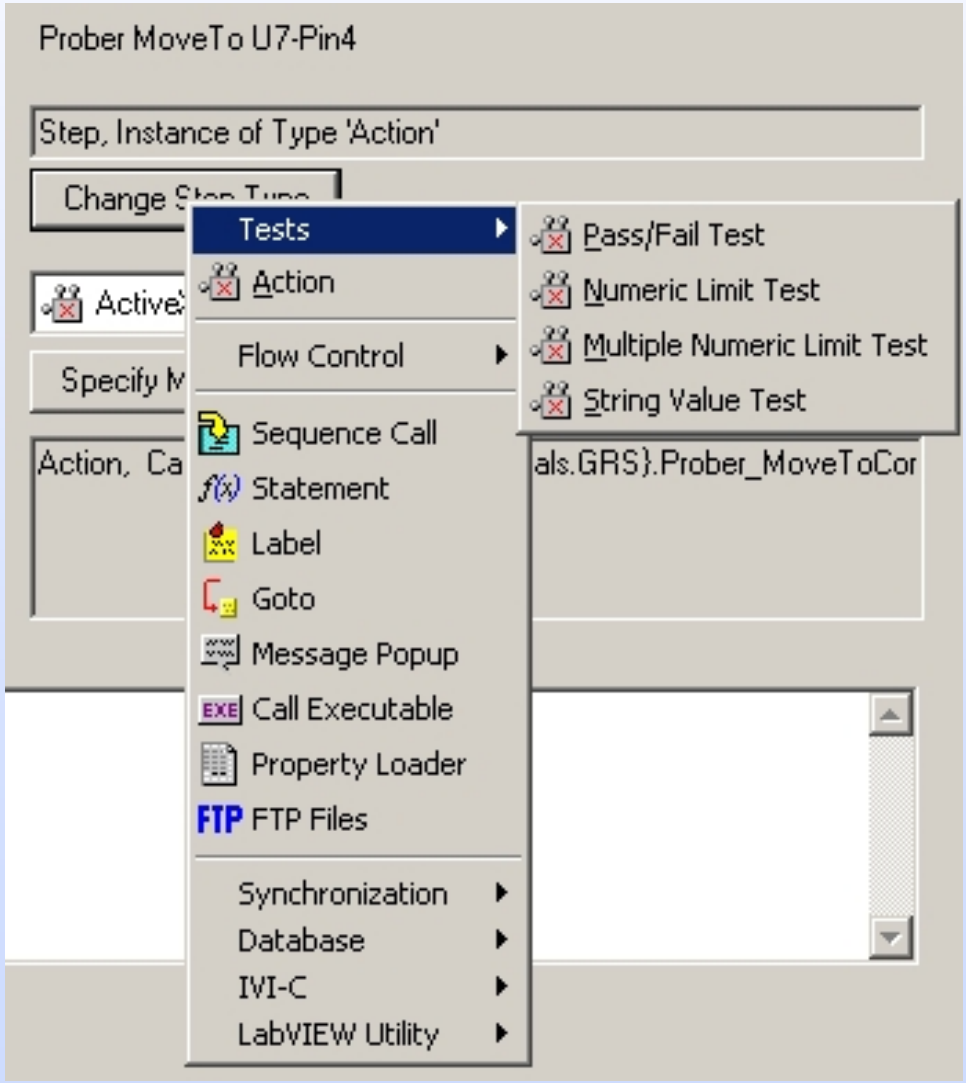

C:\...\National Instruments_ELECTRONICA-06\TestStand\TestBoard_MainSequence.
Main
Setup
Cleanup
Parameters
Locals
View:
MainSequence
Step
Description
Flow Propertie
Prober_Home
Action, Create ExternalInstruments; Call _Exte...
Prober_Common4_Only
Action, Call _ExternalInstruments{Locals.GRS}....
DUT PowerOn
Action, T00_Auto_DUT_Power-ON.vi
Prober MoveTo U9-Pin16
Action, Call _ExternalInstruments{Locals.GRS}....
ProbeDown
Action, Call _ExternalInstruments{Locals.GRS}....
Test(01) U9-Pin16
Numeric Limit Test, 4.5 <= x <= 5.5, V, T01_Au...
Post Action
OnFail Test(01)
Action, T01_Manu_U9-Pin16_(DC)+Lim.vi
ProbeUp
Action, Call _ExternalInstruments{Locals.GRS}....
Prober MoveTo U7-Pin4
Action, Call _ExternalInstruments{Locals.GRS}....
ProbeDown
Action, Call _ExternalInstruments{Locals.GRS}....
Test(02) U7-Pin4
Numeric Limit Test, 4.5 <= x <= 5.5, volt, T02_...
Post Action


Polar Instruments GRS500 Pro - [C:\Programme\Polar\GRS500\GRS500SampleBoard.grs]
File Prober Display / Info Enhance Data Manual Programming Keep Out Areas Test Points TestList Configure Window Help
Test List
TestStand - Sequence Editor [Running...] - [Test UUTs - TestBoard_Main...
File Edit View Execute Debug Configure Tools Window Help
LabVIEW
Steps Context Report Threads: MainSequence - Main (TestBoard_MainSeque
Step Description Status
Prober MoveTo U9-Pin2 Action, Call _ExternalInstruments{Locals.GRS}.... Done
ProbeDown Action, Call _ExternalInstruments{Locals.GRS}.... Done
Test(03) U9-Pin2 {9.4}, Numeric Limit Test, 9.0 <= x <= 10.0, v... Passed
OnFail Test(03) Action, T03_Manu_U9-Pin2 (DC)+Lim.vi
ProbeUp Action, Call _ExternalI
Prober MoveTo U9-Pin6 Action, Call _ExternalI
ProbeDown Action, Call _ExternalI
Test(04) U9-Pin6 {-9.2}, Numeric Limit Te
OnFail Test(04) Action, T04_Manu_U9-
ProbeUp Action, Call _ExternalI
Prober MoveTo U9-Pin3 Action, Call _ExternalI
ProbeDown Action, Call _ExternalI
Test(05) U9-Pin3 {3.2}, Numeric Limit Te
OnFail Test(05) Action, T05_Manu_U9-
ProbeUp Action, Call _ExternalI
Prober MoveTo U5-Pin82 Action, Call _ExternalI
ProbeDown Action, Call _ExternalI
Test(06) U5-Pin82 Pass/Fail Test, T06_Au
OnFail Test(06) Action, T06_Manu_U5-
ProbeUp Action, Call _ExternalI
Prober MoveTo U9-Pin3 Action, Call _ExternalI
ProbeDown Action, Call _ExternalI
Test(07) U5-Pin93 Pass/Fail Test, T07_Au
OnFail_Test(07) Action, T07_Manu_U5-
Call Stack
Test UUTs - Main (SequentialModel.Seq)
MainSequence - Main (TestBoard_MainSequenc...
Compone
Package
Cam
Board View
T07_Manu_U5-Pin93_(FDom)+Lim.vi
Datei Bearbeiten Anzeigen Projekt Ausführen Werkzeuge Fenster Hilfe
Eingabe
Spannung
Amplitude
Zeit
Result
Spannung (FFT - (Spitze))
Amplitude
Frequenz
Pass/Fail
STOPP

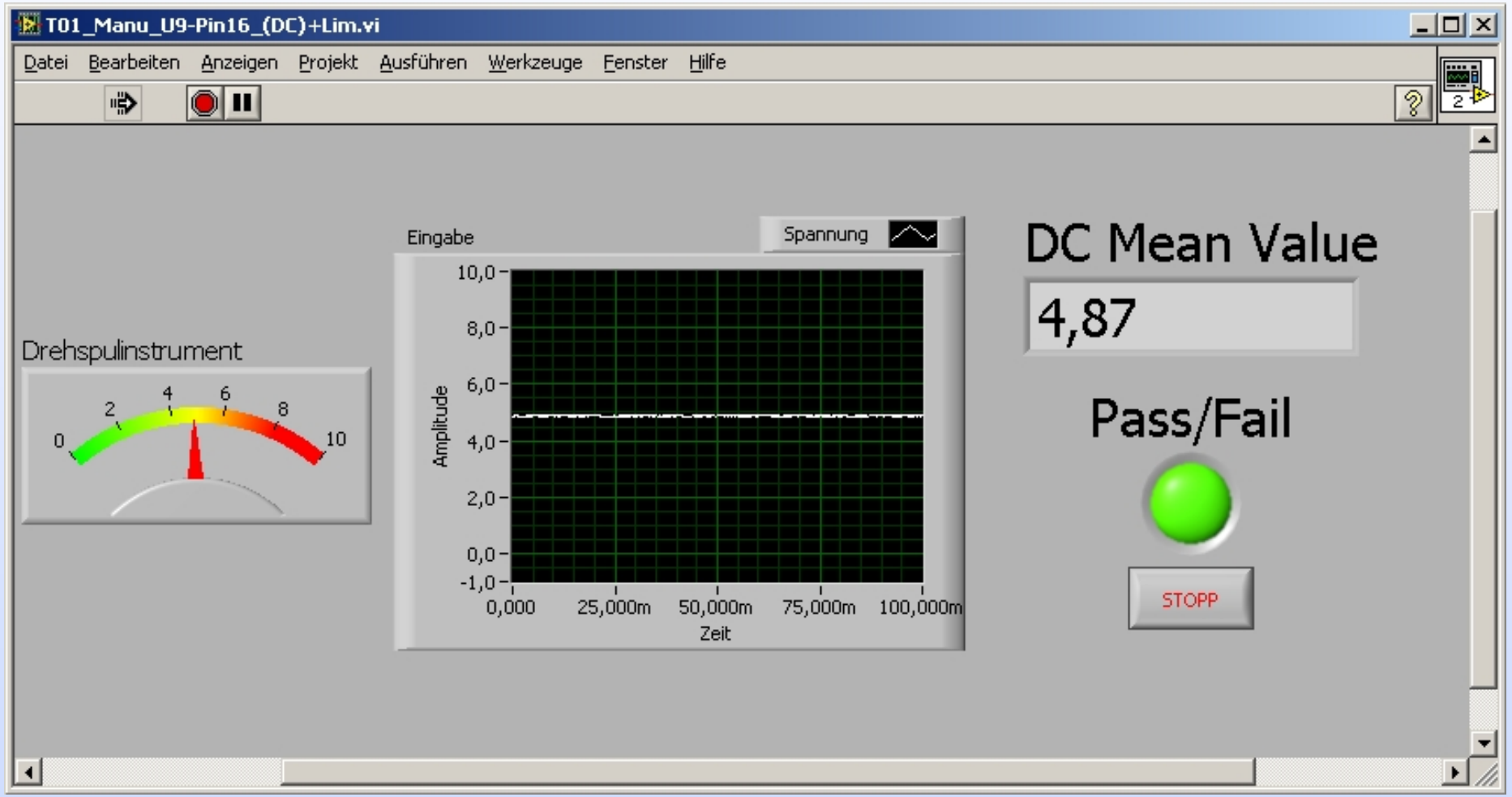
Active Test

- DC Measurement
- AC Measurement
- AC Waveform
- Tolerance Limits, Pass/Fail-Test
- FFT Spektrum Analysis
- Signal Generator
- Digital I/O Ports to control Device under Test
- Controlling additional instruments via GPIB, RS232, USB, PCI

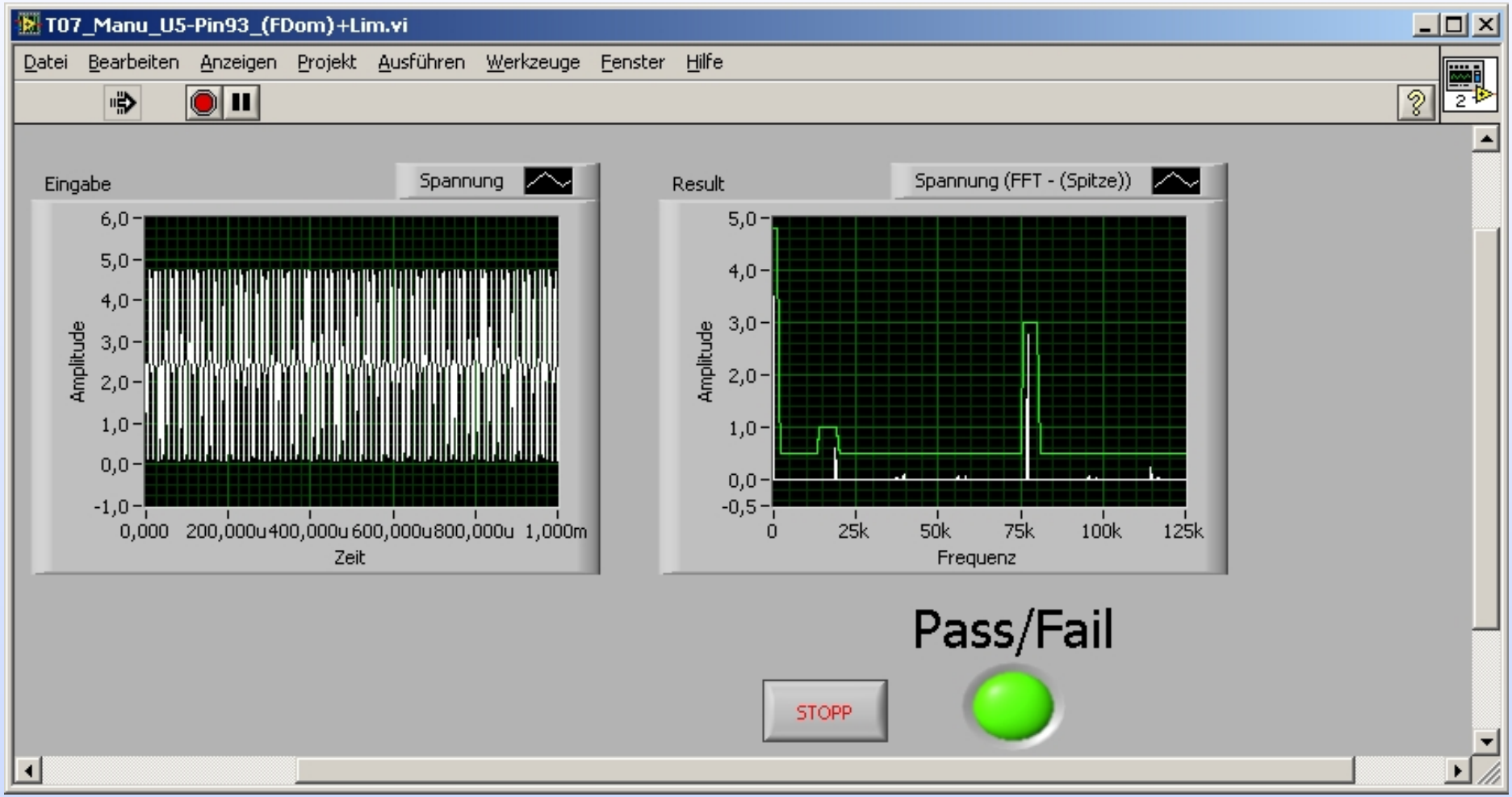
Active Test


Prober MoveTo U7-Pin4
Step, Instance of Type 'Action'
Change Step Type
Tests
Action
Flow Control
Sequence Call
Statement
Label
Goto
Message Popup
Call Executable
Property Loader
FTP Files
Synchronization
Database
IVI-C
LabVIEW Utility
Pass/Fail Test
Numeric Limit Test
Multiple Numeric Limit Test
String Value Test
Specify M
Action, Ca
als.GRS}.Prober_MoveToCor

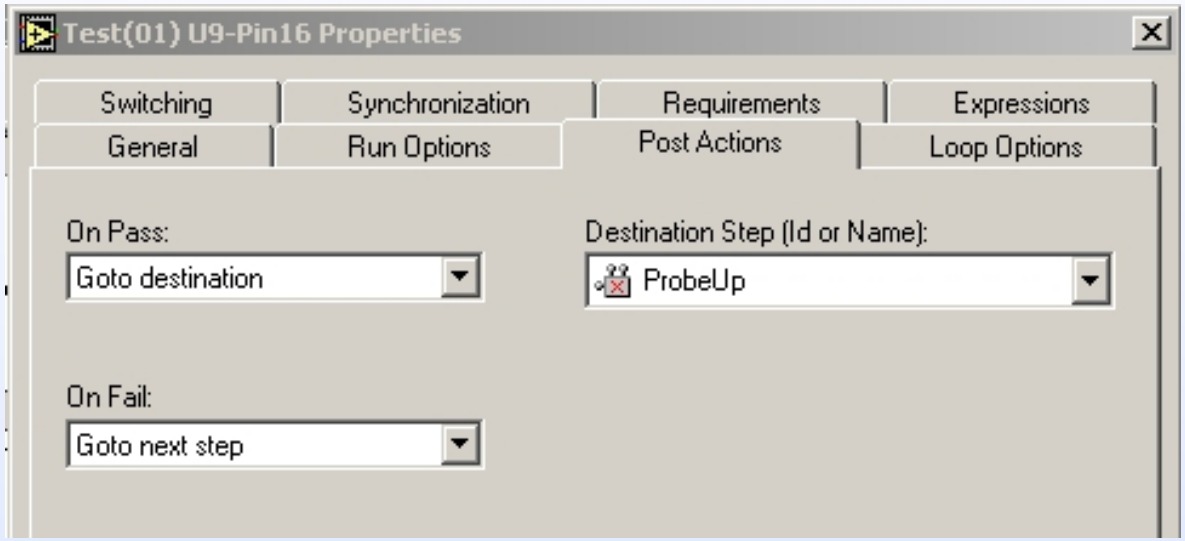
DC Measurement



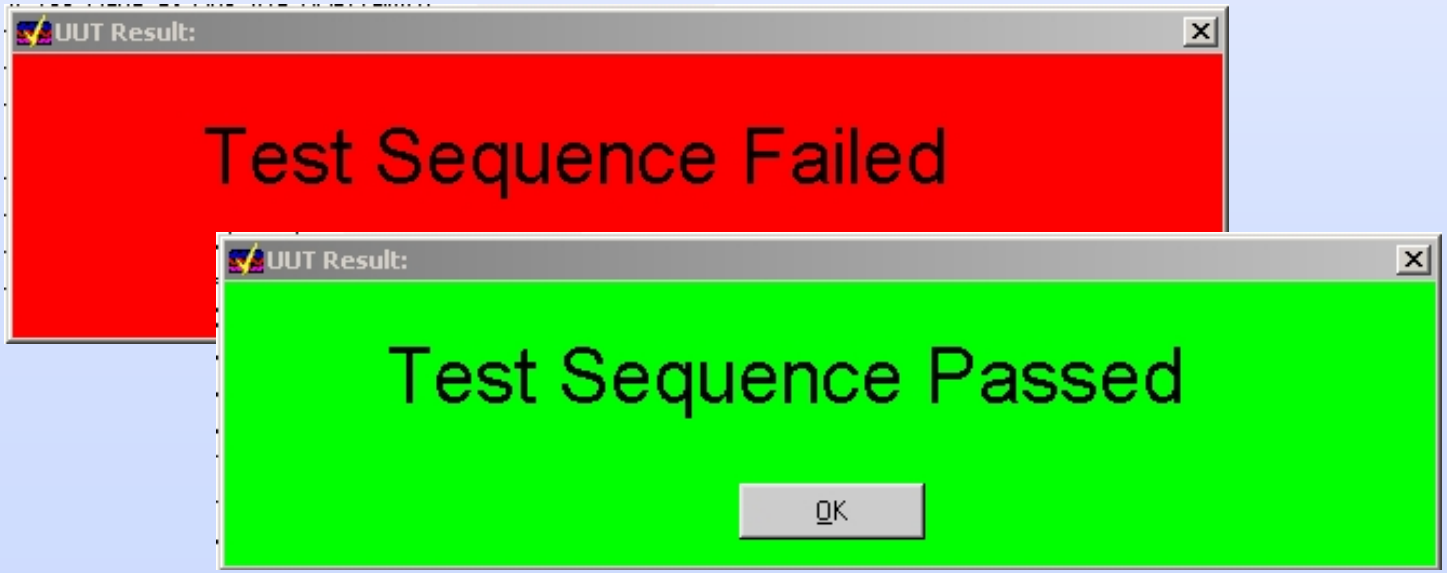
FFT Analysis

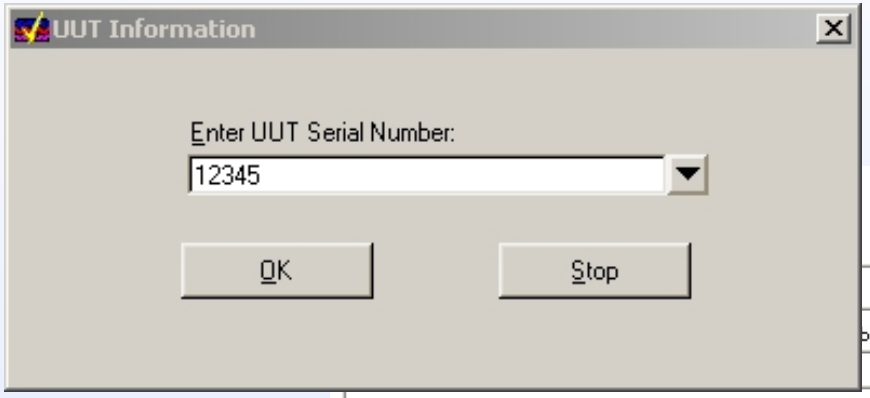


Conditional Jumps



Pass/Fail Test





Documentation

	Time	Operator	Execution Time	Number of Results	UUT Result
ber 2006	13:03:51	administrator	98.1394582 seconds	7	Failed

Failure Chain		
Step	**Sequence**	**Sequence File**
Test(06) U5-Pin82	MainSequence	TestBoard_MainSequence.seq

Begin Sequence: MainSequence
(C:\Programme\National Instruments_ELECTRONICA-06\TestStand\TestBoard_MainSequence.seq)

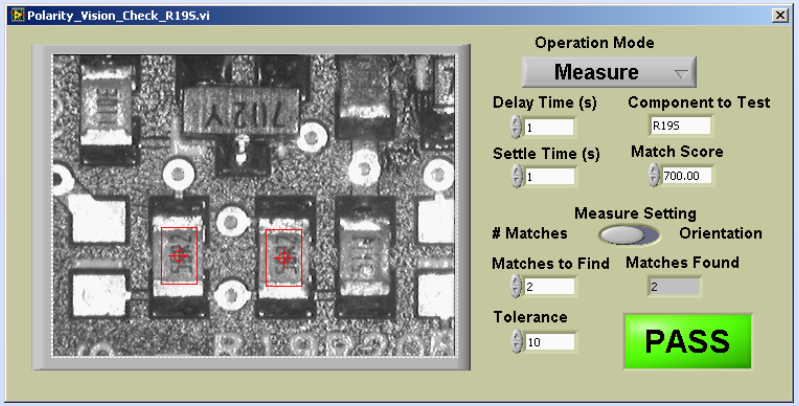
Step	Status	Measurement	Units	Limits		
				Low Limit	High Limit	Comparison Type
Test(01) U9-Pin16	Passed	4.9	V	4.5	5.5	GELE(>= <=)
Test(02) U7-Pin4	Passed	5.0	volt	4.5	5.5	GELE(>= <=)
Test(03) U9-Pin2	Passed	9.4	volt	9.0	10.0	GELE(>= <=)
Test(04) U9-Pin6	Passed	-9.2	volt	-10.0	-9.0	GELE(>= <=)
Test(05) U9-Pin3	Passed	3.2	volt rms	2.5	3.5	GELE(>= <=)
Test(06) U5-Pin82	Failed					
Test(07) U5-Pin93	Failed					

End Sequence: MainSequence

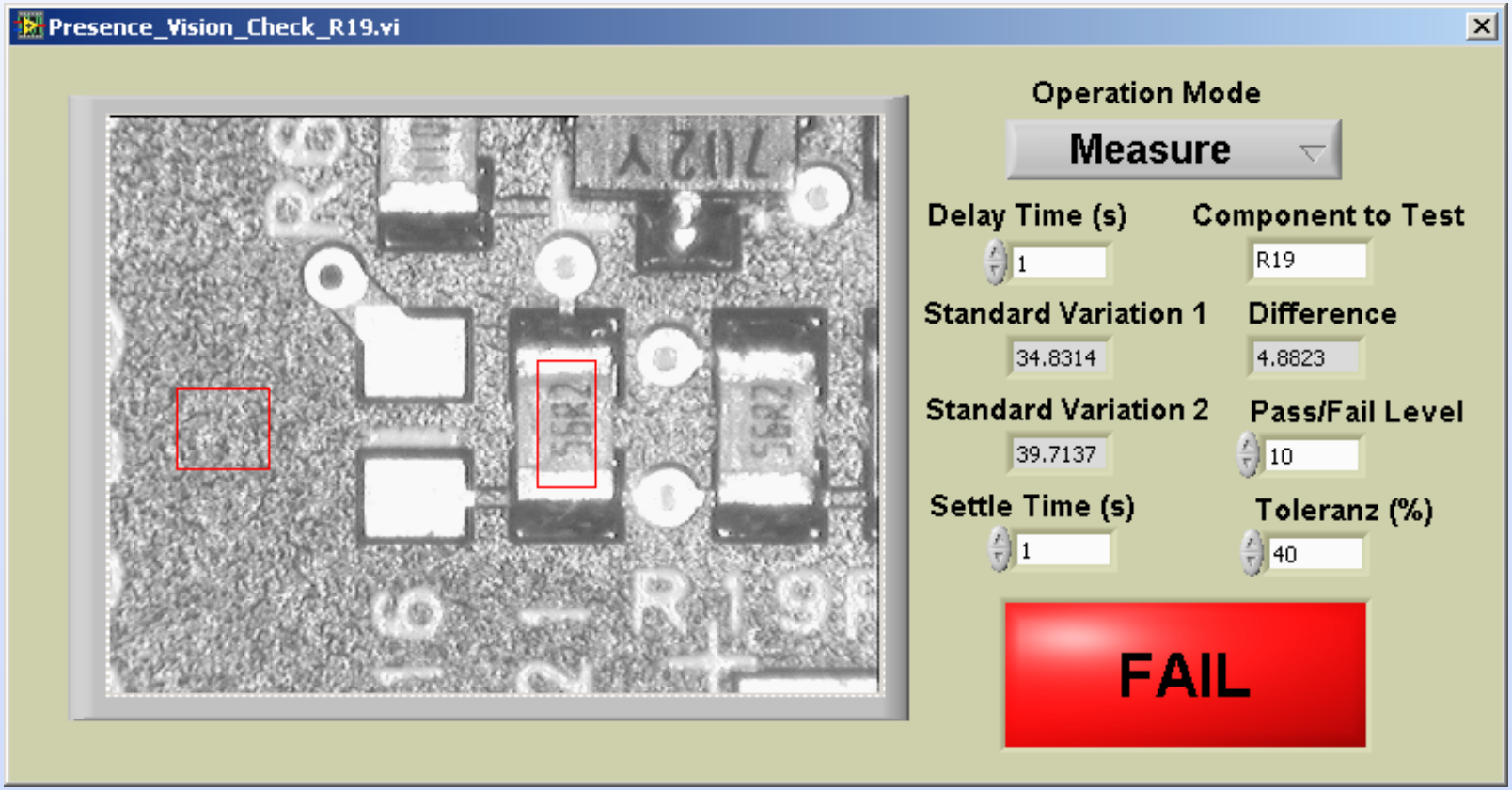
End UUT Report

ActiveVision
Add-On Module for **ActiveTest**

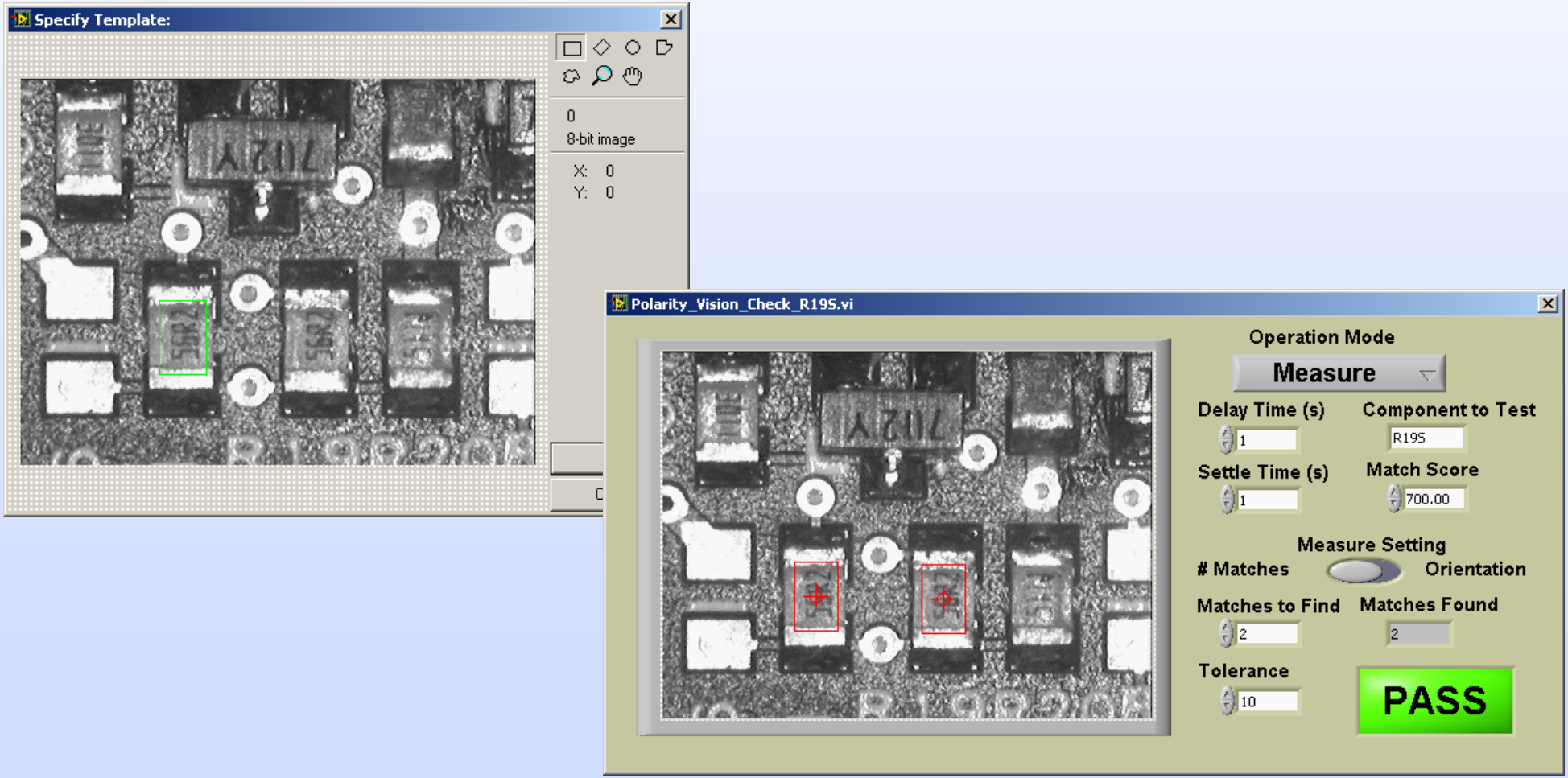
- uses powerful National Instruments „NI Vision“ Image processing software
- Integration of Vision-Tests in NI TestStand
- Checks for Presence
- Checks for Polarity
- Optical Character Recognition



Active Vision
Component Presence Detection



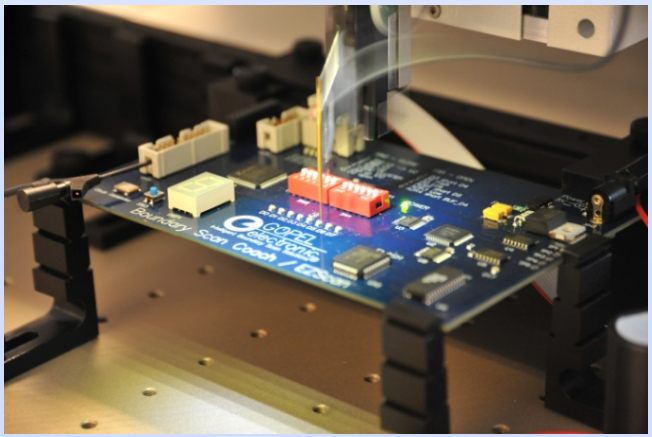
Active Vision Image Pattern Recognition



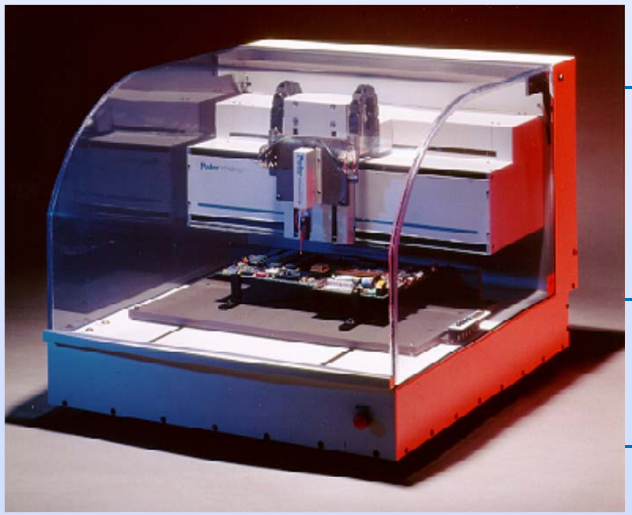
Active Vision Optical Character Recognition

Boundary Scan
Add-On Module for ActiveTest

- Integrates GÖPEL Boundary Scan Hard- and Software
- Interfaces to NI TestStand
- Stimulates and checks nodes via GRS550 test pin



Boundary Scan Test



GRS550BxD Signaturanalyse

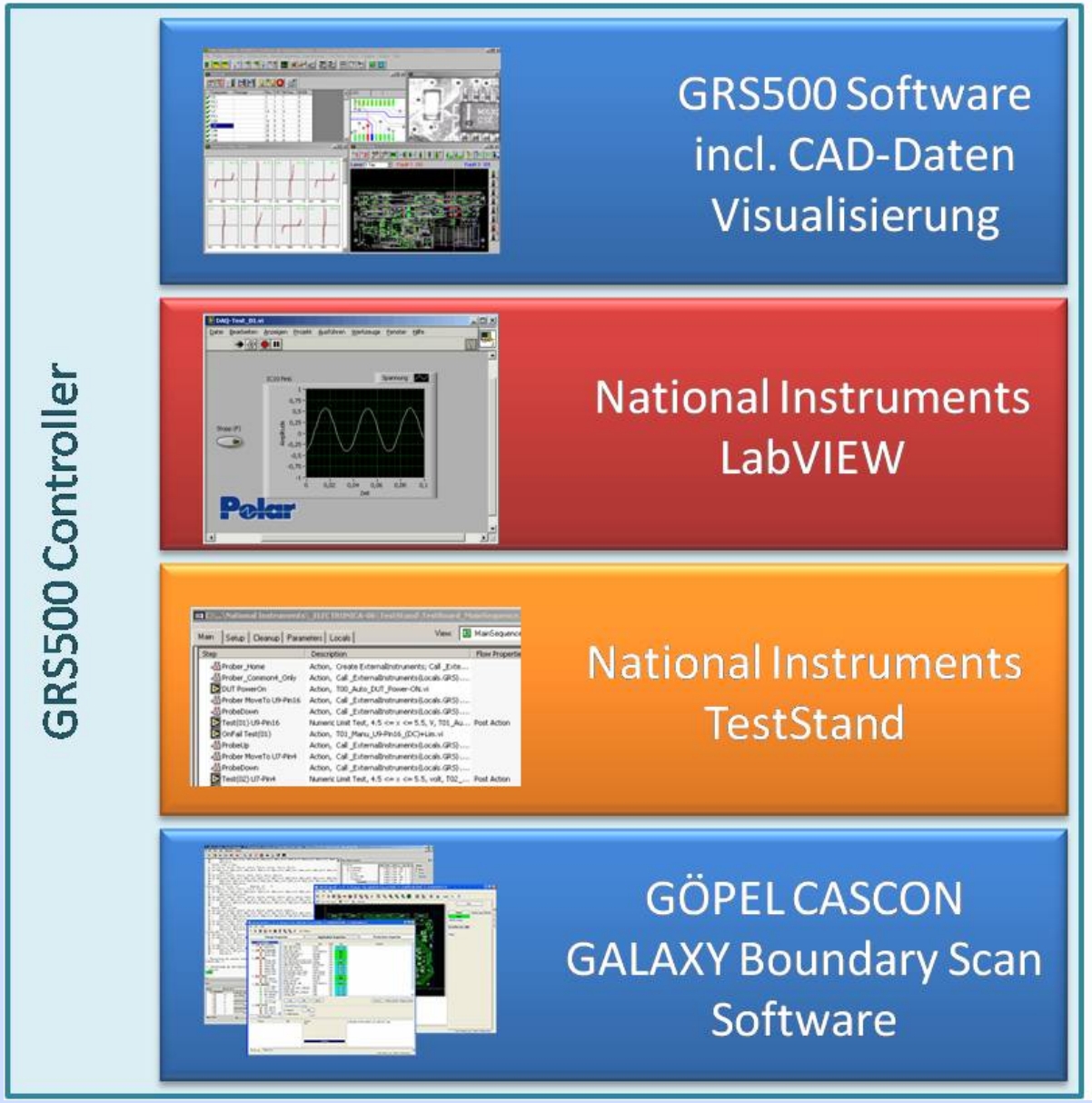
GRS550 Controller

RS232, USB, GPIB

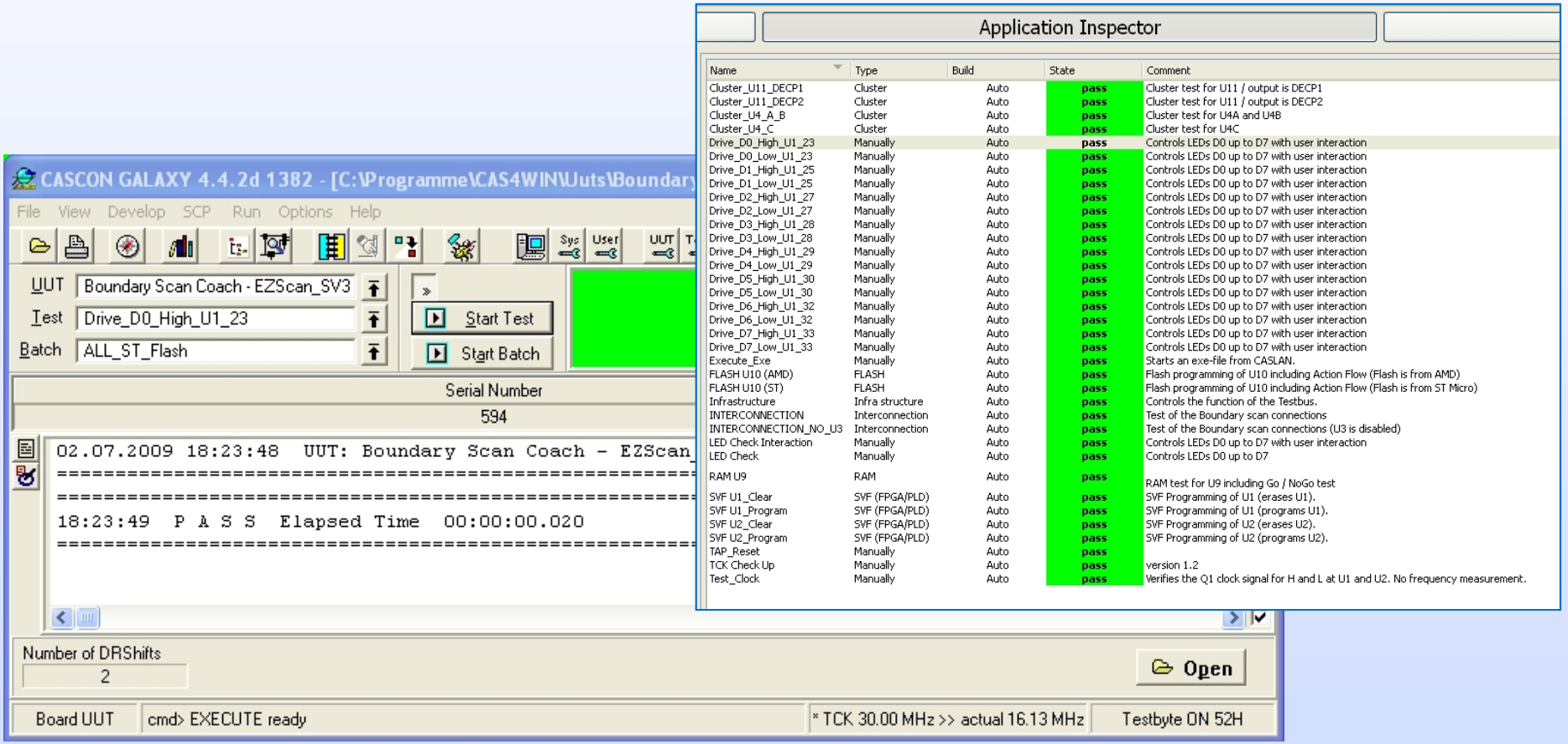
DAQ

GÖPEL SCAN Booster USB

Programmable Power Supply


GRS500 Controller
GRS500 Software
incl. CAD-Daten
Visualisierung
National Instruments
LabVIEW
National Instruments
TestStand
GÖPEL CASCON
GALAXY Boundary Scan
Software

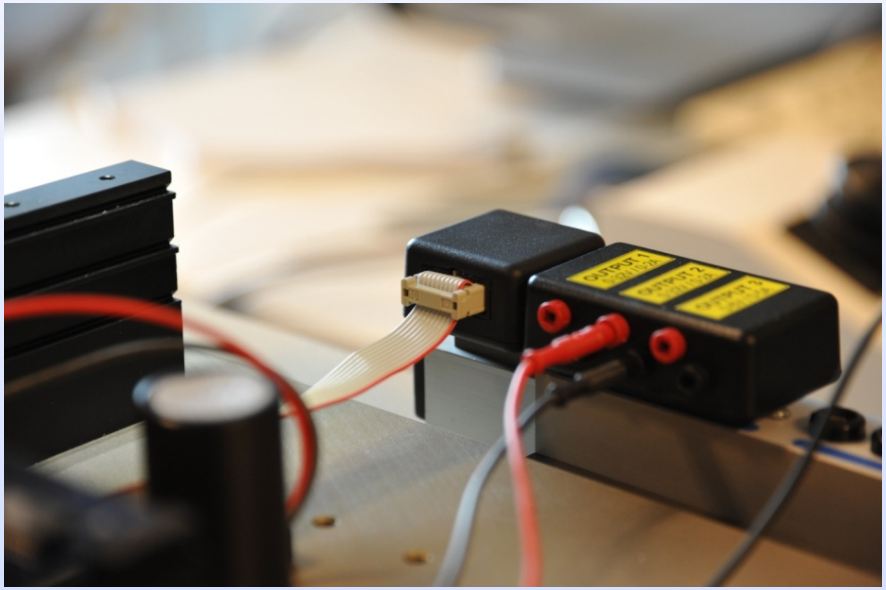
Boundary Scan Test



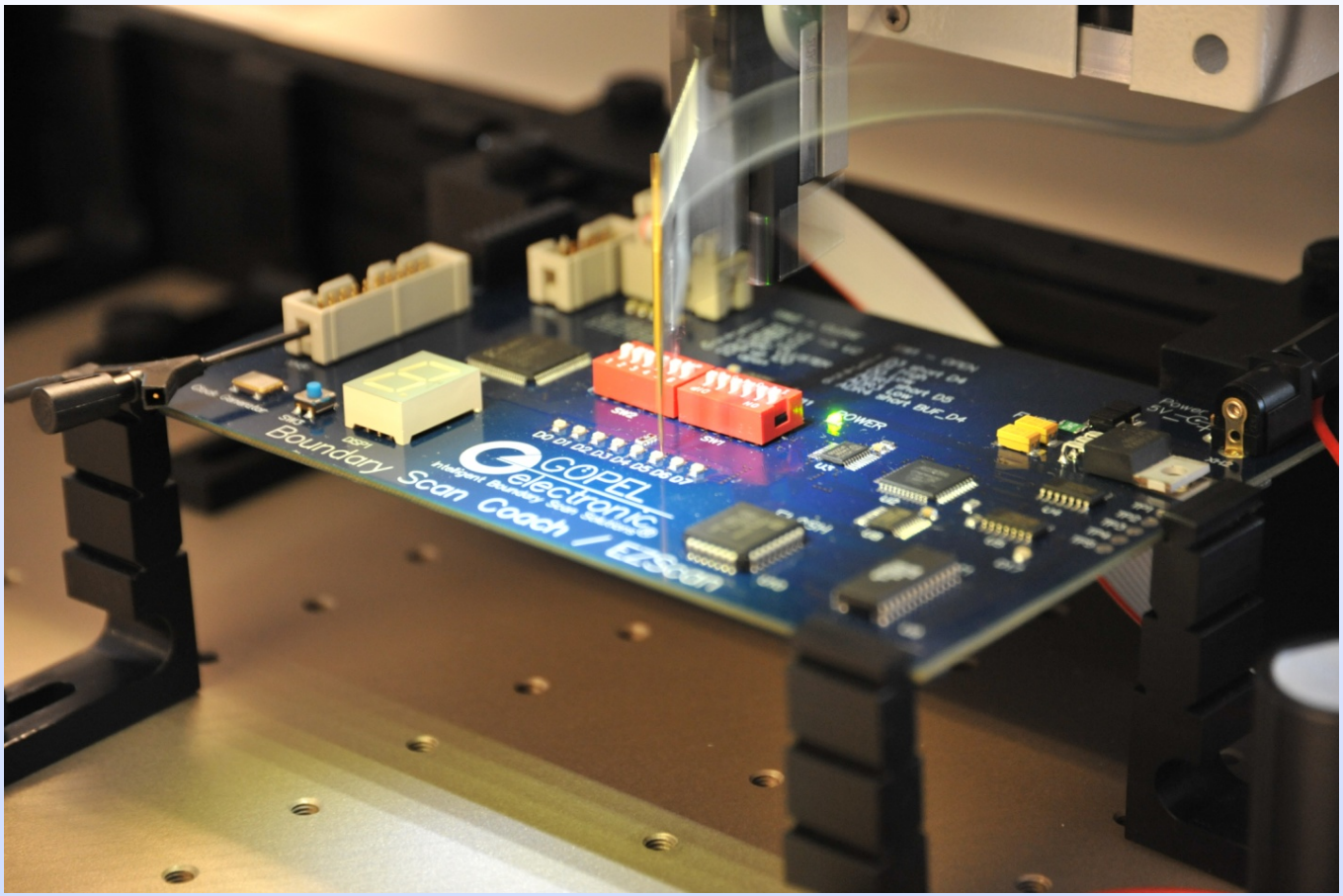
Name	Type	Build	State	Comment
Cluster_U11_DECP1	Cluster	Auto	pass	Cluster test for U11 / output is DECP1
Cluster_U11_DECP2	Cluster	Auto	pass	Cluster test for U11 / output is DECP2
Cluster_U4_A_B	Cluster	Auto	pass	Cluster test for U4A and U4B
Cluster_U4_C	Cluster	Auto	pass	Cluster test for U4C
Drive_D0_High_U1_23	Manually	Auto	pass	Controls LEDs D0 up to D7 with user interaction
Drive_D0_Low_U1_23	Manually	Auto	pass	Controls LEDs D0 up to D7 with user interaction
Drive_D1_High_U1_25	Manually	Auto	pass	Controls LEDs D0 up to D7 with user interaction
Drive_D1_Low_U1_25	Manually	Auto	pass	Controls LEDs D0 up to D7 with user interaction
Drive_D2_High_U1_27	Manually	Auto	pass	Controls LEDs D0 up to D7 with user interaction
Drive_D2_Low_U1_27	Manually	Auto	pass	Controls LEDs D0 up to D7 with user interaction
Drive_D3_High_U1_28	Manually	Auto	pass	Controls LEDs D0 up to D7 with user interaction
Drive_D3_Low_U1_28	Manually	Auto	pass	Controls LEDs D0 up to D7 with user interaction
Drive_D4_High_U1_29	Manually	Auto	pass	Controls LEDs D0 up to D7 with user interaction
Drive_D4_Low_U1_29	Manually	Auto	pass	Controls LEDs D0 up to D7 with user interaction
Drive_D5_High_U1_30	Manually	Auto	pass	Controls LEDs D0 up to D7 with user interaction
Drive_D5_Low_U1_30	Manually	Auto	pass	Controls LEDs D0 up to D7 with user interaction
Drive_D6_High_U1_32	Manually	Auto	pass	Controls LEDs D0 up to D7 with user interaction
Drive_D6_Low_U1_32	Manually	Auto	pass	Controls LEDs D0 up to D7 with user interaction
Drive_D7_High_U1_33	Manually	Auto	pass	Controls LEDs D0 up to D7 with user interaction
Drive_D7_Low_U1_33	Manually	Auto	pass	Controls LEDs D0 up to D7 with user interaction
Execute_Exe	Manually	Auto	pass	Starts an exe-file from CASLAN.
FLASH U10 (AMD)	FLASH	Auto	pass	Flash programming of U10 including Action Flow (Flash is from AMD)
FLASH U10 (ST)	FLASH	Auto	pass	Flash programming of U10 including Action Flow (Flash is from ST Micro)
Infrastructure	Infra structure	Auto	pass	Controls the function of the Testbus.
INTERCONNECTION	Interconnection	Auto	pass	Test of the Boundary scan connections
INTERCONNECTION_NO_U3	Interconnection	Auto	pass	Test of the Boundary scan connections (U3 is disabled)
LED Check Interaction	Manually	Auto	pass	Controls LEDs D0 up to D7 with user interaction
LED Check	Manually	Auto	pass	Controls LEDs D0 up to D7
RAM U9	RAM	Auto	pass	RAM test for U9 including Go / NoGo test
SVF U1_Clear	SVF (FPGA/PLD)	Auto	pass	SVF Programming of U1 (erases U1).
SVF U1_Program	SVF (FPGA/PLD)	Auto	pass	SVF Programming of U1 (programs U1).
SVF U2_Clear	SVF (FPGA/PLD)	Auto	pass	SVF Programming of U2 (erases U2).
SVF U2_Program	SVF (FPGA/PLD)	Auto	pass	SVF Programming of U2 (programs U2).
TAP_Reset	Manually	Auto	pass	
TCK Check Up	Manually	Auto	pass	version 1.2
Test_Clock	Manually	Auto	pass	Verifies the Q1 clock signal for H and L at U1 and U2. No frequency measurement.

Test Program Generation using GÖPEL CASCON GALAXY

Boundary Scan Test Integration in GRS550



Boundary Scan Test



Using the GRS550 and Boundary Scan Test to check logic levels.