
Installation and Development Notes
for GuideTech Test Methods
on the Agilent93000



Installation Procedure:

Directory Structure

Copy the directory "GuideTechMethods_RX.X" to the target device directory of your test program

```
cp -R GuideTechMethods_RX.X~/<device_directory>/TestMethods/
```

Compile the Test Methods

- Start HPSmarTest and select your <device_directory>
- Load the test program and open the Testflow Tool
- From the menu bar select Edit->test method editor->...
- Use the file browser to locate the GuideTechMethods_RX.X directory.

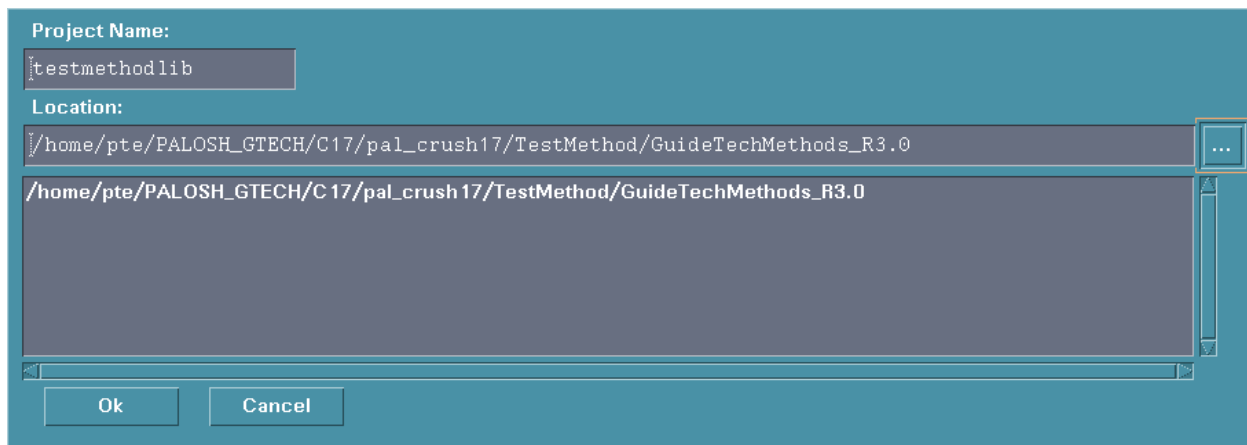
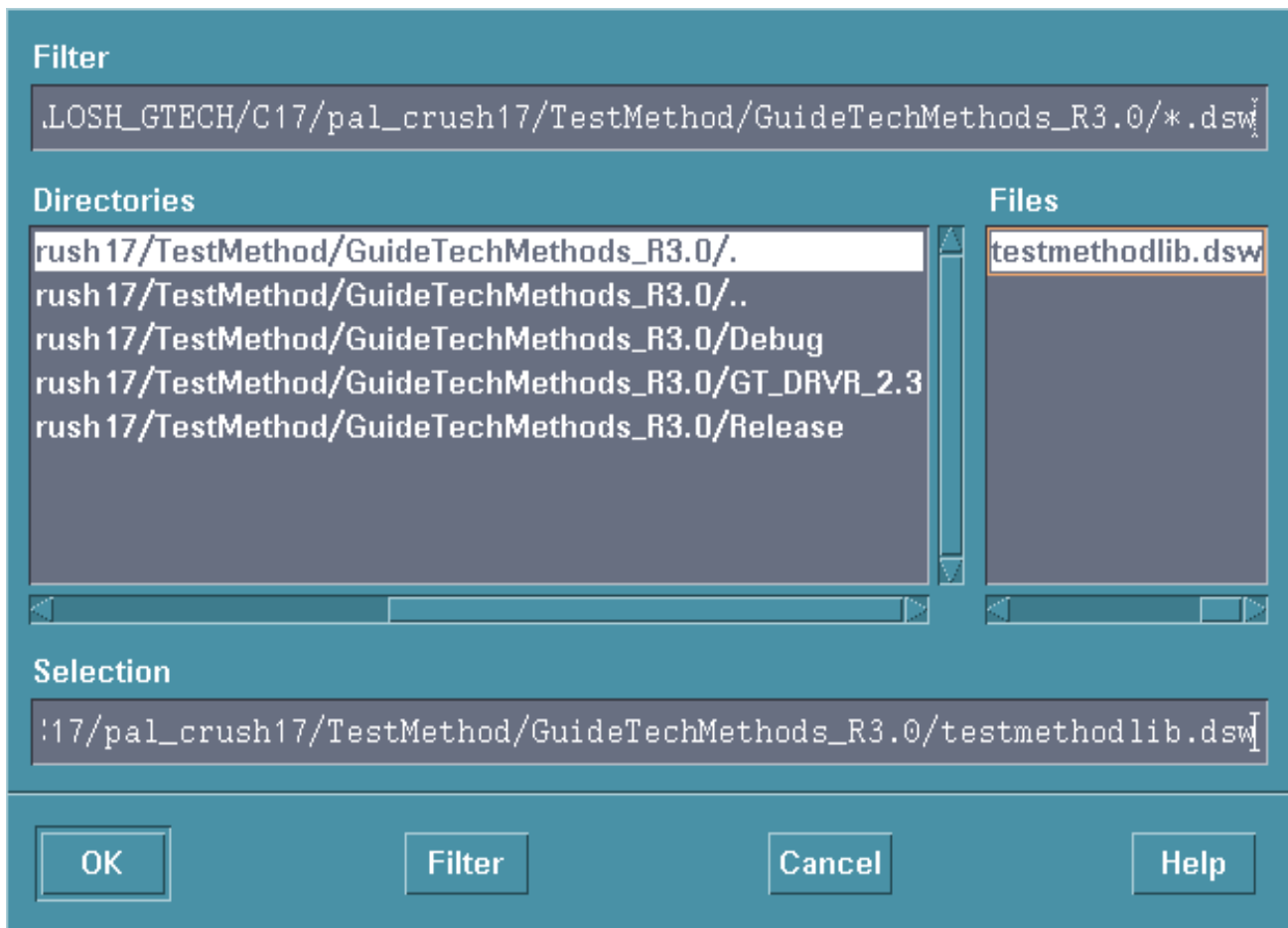


Figure 1

**Figure 2**

- Within that directory select the file: "testmethodlib.dsw"
- Click ok on both windows

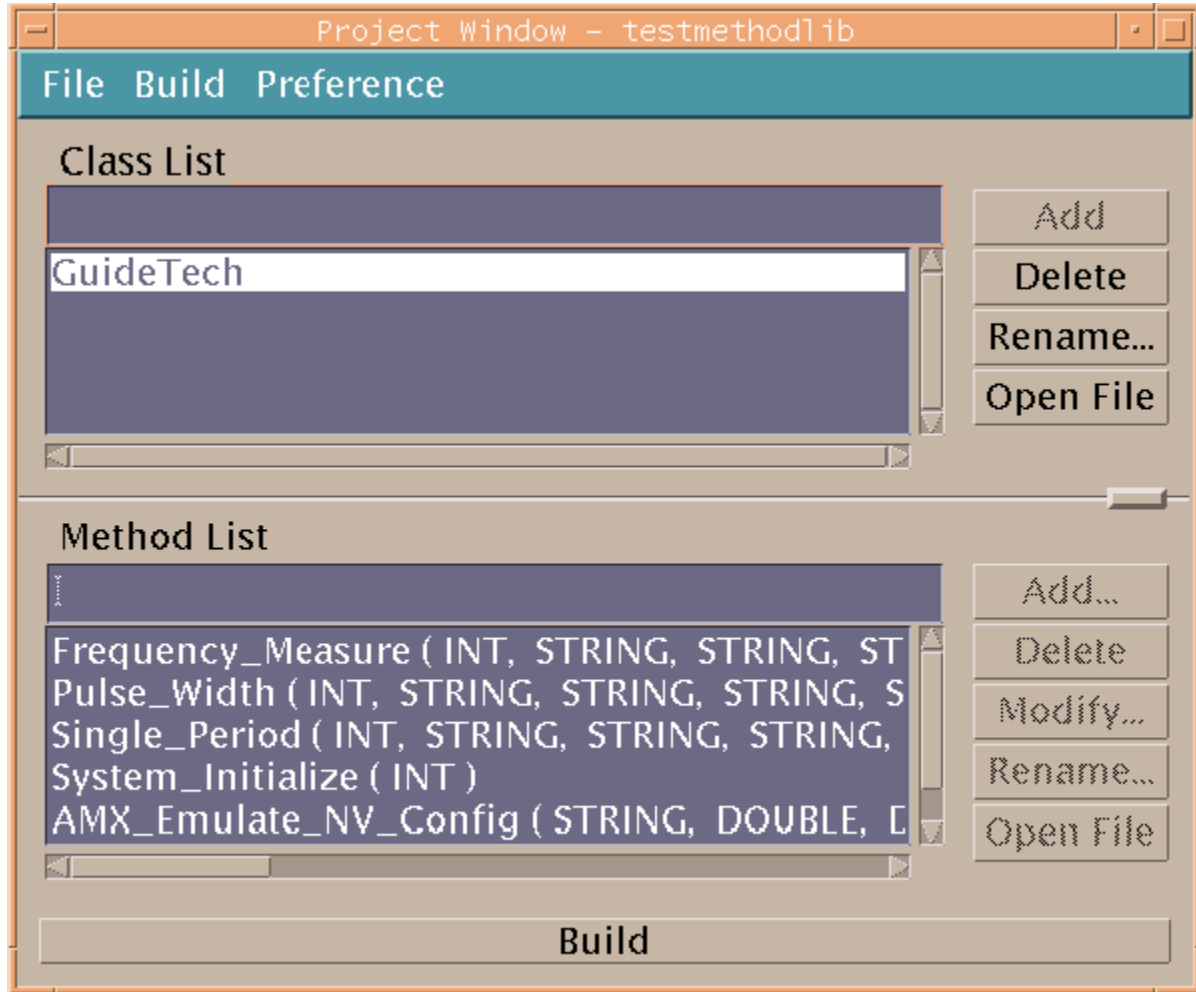


Figure 3

- When the project window appears click "Build"
- *Note: You may have to click "Build" several times before it registers in the HPSmarTest environment.
- *Note: Be sure that your environment's path to the aCC compiler is correct

TEST DEVELOPMENT:

Generate flow to load setups to Femto for quick recall.

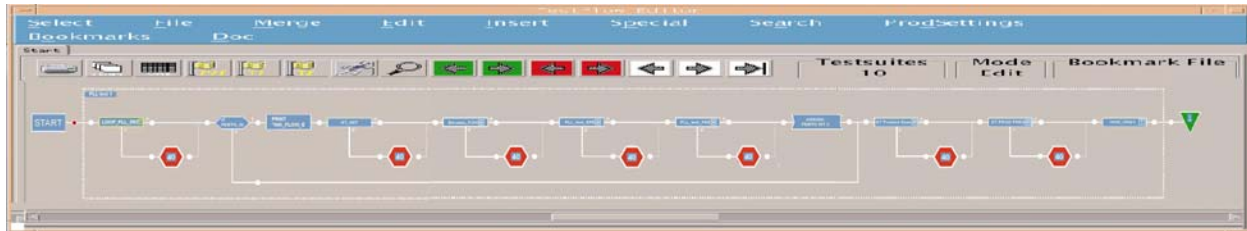


Figure 4

The loop inside the testflow will setup and store settings inside the Femto3200 and run the tests. The remaining elements of the test flow will recall the settings and run the tests again. Subsequent executions of the testflow will skip the initial loop, recall the settings, and run the tests .

Explanation of TestFlow Elements part 1

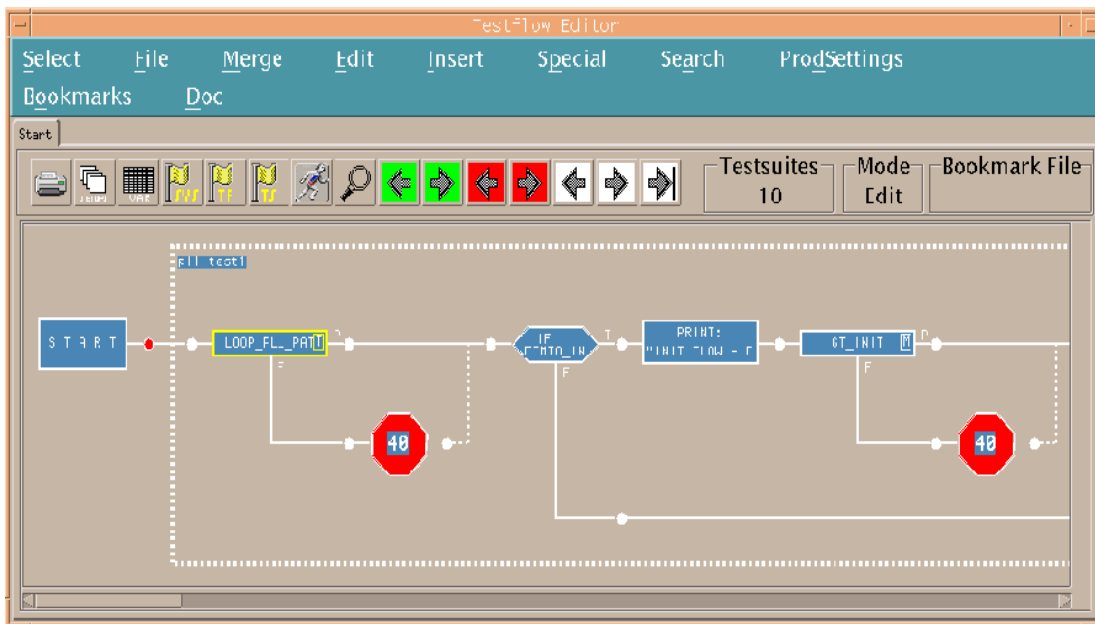


Figure 5

Define and Initialize variable

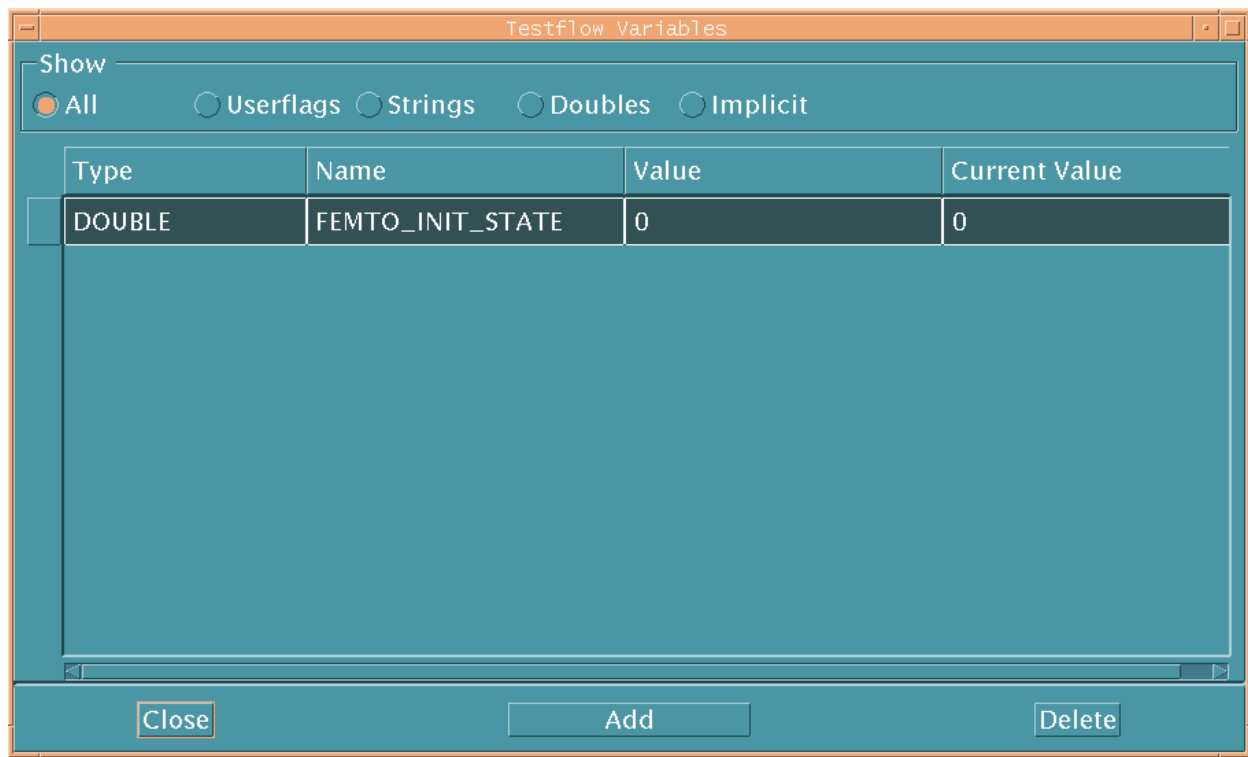


Figure 6

- Select variable
- Press Add button

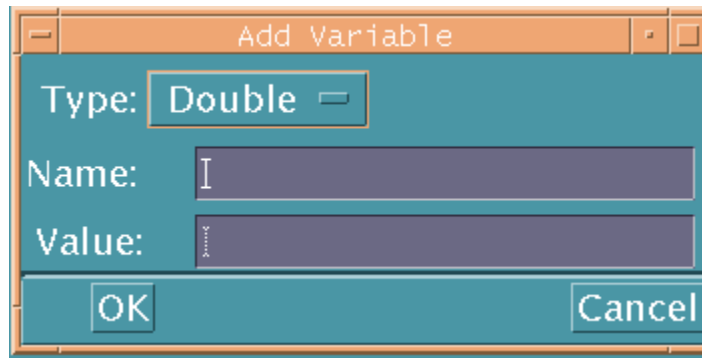
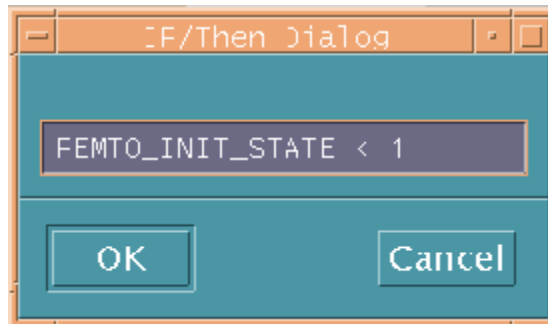


Figure 7

- Name variable FEMTO_INIT_STATE
- Set Value to 0
- Press OK
- Press Close on test Variables window

If/Then variable**Figure 8**

- Insert an if/then statement
- Enter FEMTO_INIT_STATE < 1 in the Dialog Box. The FEMTO_INIT_STATE variable is checked to determine if the testflow will enter or skip the initialization loop.
- Click "OK"

Initialize Femto3200

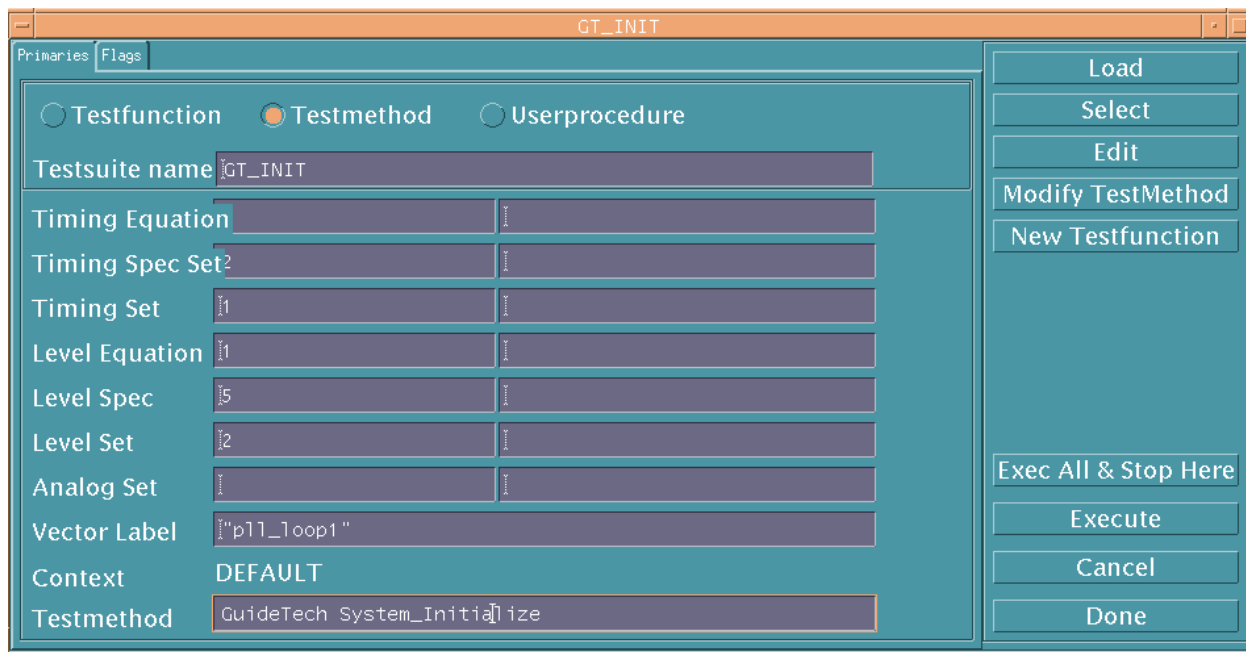


Figure 9

- Insert a new test
- Select the "TestMethod" radio button at the top of the TestSuite Dialog Box
- Place cursor in the Test Method field at the bottom of the TestSuite Dialog Box
- Click "Select"
- Insert Test Method Guidetech System_initialize
- Click "Edit" to modify Test Method parameters

Set Femto GPIB address

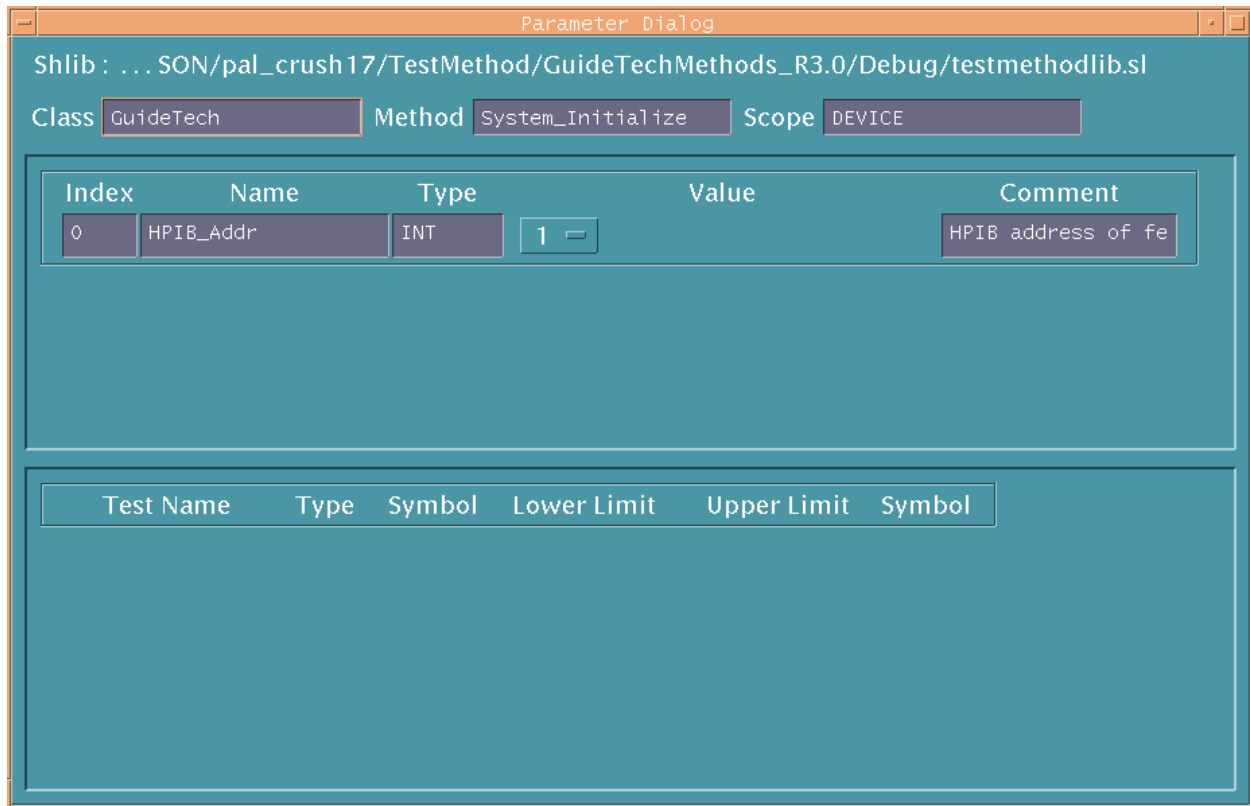


Figure 10

- Select GPIB address

Explanation of TestFlow Elements part 2

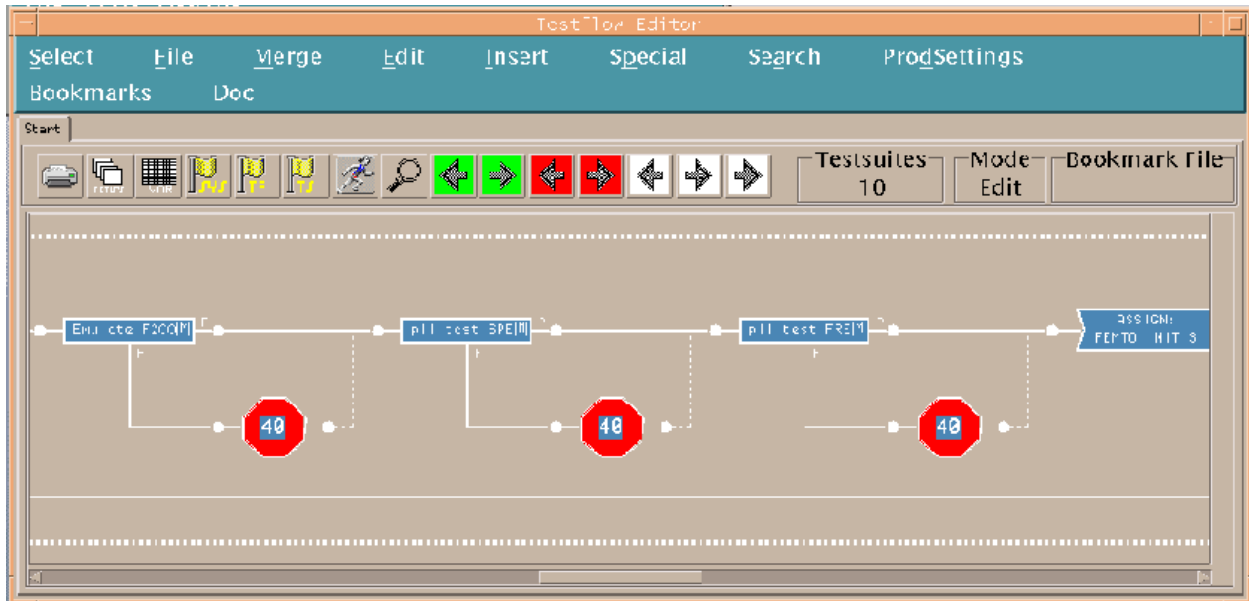


Figure 11

Add Test Methods to your Init Flow

Primaries | Flags

Testfunction Testmethod Userprocedure

Testsuite name: pll_test_FREQ

Timing Equation: 6

Timing Spec Set: 2

Timing Set: 1

Level Equation: 1

Level Spec: 5

Level Set: 2

Analog Set:

Vector Label: "pll_loop1"

Context: DEFAULT

Testmethod: GuideTech Frequency_Measure

Buttons: Load, Select, Edit, Modify TestMethod, New Testfunction, Exec All & Stop Here, Execute, Cancel, Done

Figure 12

- Insert a new test
- Select the "TestMethod" radio button at the top of the TestSuite Dialog Box
- Place cursor in the Test Method field at the bottom of the TestSuite Dialog Box
- Click "Select"
- Select the appropriate Test Method
- Click "Edit" to modify Test Method parameters

Shlib : ... C:\pa_crush\17\TestMethod\GuideTechMethods_R3.0\Debug\testmethodlib.sl

Class Method Scope

Index	Name	Type	Value	Comment
0	Save_Setup_As	INT	2	For Production
1	CHAN_0A	STRING	ON	
2	CHAN_0B	STRING	ON	
3	CHAN_1A	STRING	OFF	
4	CHAN_1B	STRING	OFF	
5	CHAN_2A	STRING	ON	
6	CHAN_2B	STRING	ON	
7	CHAN_3A	STRING	ON	
8	CHAN_3B	STRING	OFF	
9	block_size	INT	200	Block Size
10	block_count	INT	1	Block Count
11	block_arm_mode_s	STRING	BLOCK_ARM_IMMEDIATE	Block Arm Mode
12	start_meas_mode_s	STRING	START_ARM_BYTIME	Start Measureme
13	polarity_s	STRING	POL_POS	Polarity
14	ara_event_interval	INT	1	Ara Event Inter
15	araing_time_interva	DOUBLE	3e-6	Araing Time Int
16	threshold_mode_s	STRING	THR_PERC	Threshold Mode
17	threshold	DOUBLE	50	Signal Thresho
18	ara_threshold	DOUBLE	0	Ara Threshold
19	sensitivity_mode_s	STRING	SENS_LOW	Sensitivity Mod
20	results_types_s	STRING	RESULTS_TOTALSTAT	Result types

Figure 13

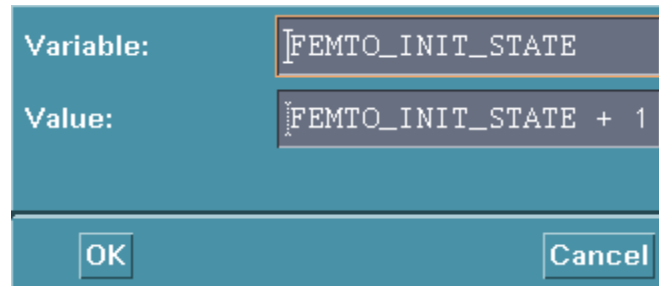
- Select Test Method Channels and setups:
- Input unique integer for each Save_Setup_As

Test Name	Type	Symbol	Lower Limit	Upper Limit	Symbol
CHAN_0A_MEAN	DOUBLE	N/A	[	]	N/A
CHAN_0A_STD_DEV	DOUBLE	N/A	[	]	N/A
CHAN_0A_PKtoPK	DOUBLE	N/A	[	]	N/A
CHAN_0B_MEAN	DOUBLE	N/A	[	]	N/A
CHAN_0B_STD_DEV	DOUBLE	N/A	[	]	N/A
CHAN_0B_PKtoPK	DOUBLE	N/A	[	]	N/A
CHAN_1A_MEAN	DOUBLE	N/A	[	]	N/A
CHAN_1A_STD_DEV	DOUBLE	N/A	[	]	N/A
CHAN_1A_PKtoPK	DOUBLE	N/A	[	]	N/A
CHAN_1B_MEAN	DOUBLE	N/A	[	]	N/A
CHAN_1B_STD_DEV	DOUBLE	N/A	[	]	N/A
CHAN_2A_STD_DEV	DOUBLE	N/A	[	]	N/A
CHAN_2A_PKtoPK	DOUBLE	N/A	[	]	N/A
CHAN_2B_MEAN	DOUBLE	N/A	[	]	N/A
CHAN_2B_STD_DEV	DOUBLE	N/A	[	]	N/A
CHAN_2B_PKtoPK	DOUBLE	N/A	[	]	N/A
CHAN_3A_MEAN	DOUBLE	N/A	[	]	N/A
CHAN_3A_STD_DEV	DOUBLE	N/A	[	]	N/A
CHAN_3A_PKtoPK	DOUBLE	N/A	[	]	N/A
CHAN_3B_MEAN	DOUBLE	N/A	[	]	N/A
CHAN_3B_STD_DEV	DOUBLE	N/A	[	]	N/A
CHAN_3B_PKtoPK	DOUBLE	N/A	[	]	N/A

Figure 14

- Enter Test Method Limits:
 - N/A – Limit value is not used
 - [] – Limit value is [Greater than or Equal](#) to value
 - () – Limit value is [Greater than](#) value

Increment variable



The image shows a dialog box with a teal background. It has two input fields. The first is labeled "Variable:" and contains the text "FEMTO_INIT_STATE". The second is labeled "Value:" and contains the text "FEMTO_INIT_STATE + 1". At the bottom of the dialog box, there are two buttons: "OK" on the left and "Cancel" on the right.

Figure 15

- Insert an Assign Value statement
- Enter statements into dialog boxes as indicated above
- Click "OK"

Explanation of TestFlow Elements part 3

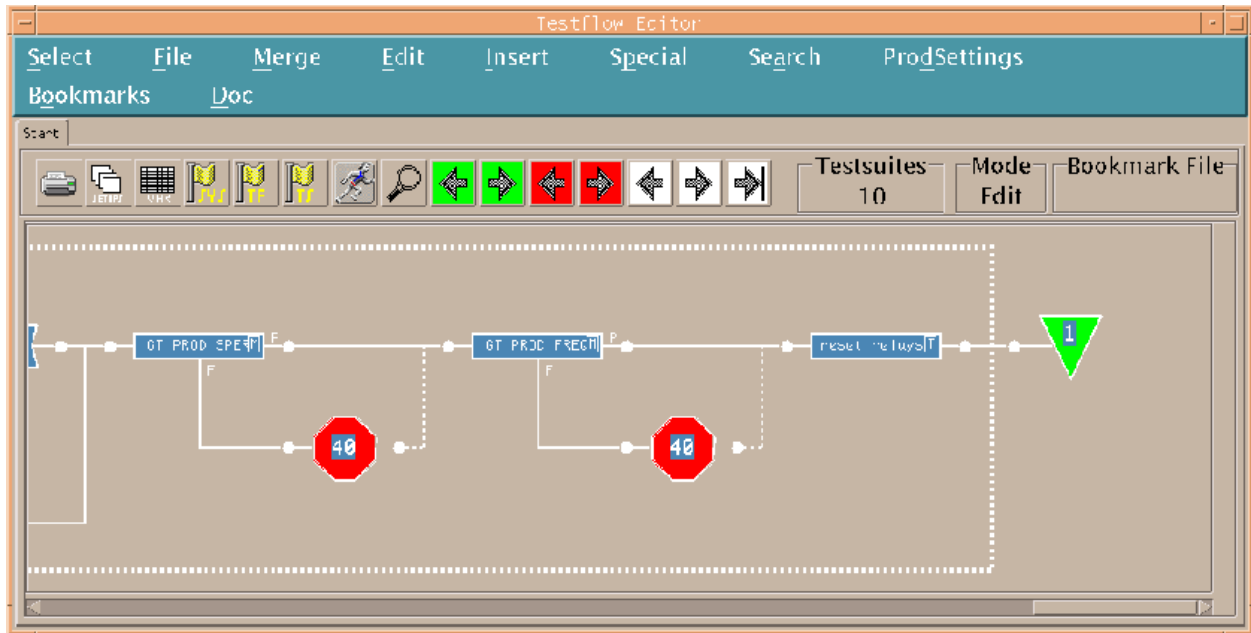


Figure 16

Add Test Methods to your Test Flow

Primaries Flags

Testfunction Testmethod Userprocedure

Testsuite name GT_PROD_FREQ

Timing Equation 6

Timing Spec Set 2

Timing Set 1

Level Equation 1

Level Spec 5

Level Set 2

Analog Set

Vector Label "pll_loop1"

Context DEFAULT

Testmethod GuideTech Production_Test

Load

Select

Edit

Modify TestMethod

New Testfunction

Exec All & Stop Here

Execute

Cancel

Done

Figure 17

- Insert a new test
- Select the "TestMethod" radio button at the top of the TestSuite Dialog Box
- Place cursor in the Test Method field at the bottom of the TestSuite Dialog Box
- Click "Select"
- Select the appropriate Test Method
- Click "Edit" to modify Test Method parameters

Shlib : ... C17/pal_crush17/TestMethod/GuideTechMethods_R3.0/Debug/testmethodlib.sl

Class Method Scope

Index	Name	Type	Value	Comment
0	Recall_Setup	INT	<input type="text" value="2"/>	The Setup To Be Te
1	CHAN_0A	STRING	<input type="text" value="ON"/>	
2	CHAN_0B	STRING	<input type="text" value="ON"/>	
3	CHAN_1A	STRING	<input type="text" value="OFF"/>	
4	CHAN_1B	STRING	<input type="text" value="OFF"/>	
5	CHAN_2A	STRING	<input type="text" value="ON"/>	
6	CHAN_2B	STRING	<input type="text" value="ON"/>	
7	CHAN_3A	STRING	<input type="text" value="ON"/>	
8	CHAN_3B	STRING	<input type="text" value="OFF"/>	
9	UNITS	STRING	<input type="text" value="MHz"/>	

Test Name	Type	Symbol	Lower Limit	Upper Limit	Symbol
CHAN_0A_MEAN	DOUBLE	<input type="text" value="N/A"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="N/A"/>
CHAN_0A_STD_DEV	DOUBLE	<input type="text" value="N/A"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="N/A"/>
CHAN_0A_PKtoPK	DOUBLE	<input type="text" value="N/A"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="N/A"/>
CHAN_0B_MEAN	DOUBLE	<input type="text" value="N/A"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="N/A"/>
CHAN_0B_STD_DEV	DOUBLE	<input type="text" value="N/A"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="N/A"/>
CHAN_0B_PKtoPK	DOUBLE	<input type="text" value="N/A"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="N/A"/>
CHAN_1A_MEAN	DOUBLE	<input type="text" value="N/A"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="N/A"/>
CHAN_1A_STD_DEV	DOUBLE	<input type="text" value="N/A"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="N/A"/>
CHAN_1A_PKtoPK	DOUBLE	<input type="text" value="N/A"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="N/A"/>
CHAN_1B_MEAN	DOUBLE	<input type="text" value="N/A"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="N/A"/>
CHAN_1B_STD_DEV	DOUBLE	<input type="text" value="N/A"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="N/A"/>

Figure 18

- Select Test Method Channels and setups and Enter Test Method Limits as illustrated earlier:
- Select required integer for each Recall_Setup