

Fujitsu Softune Emulator

Abstract

This document describes tips and hints for using the Fujitsu Softune workbench emulator or simulator as target system. TESSY supports Softune WB-16 (L/LX-Family) and Softune WB-32 (FR-Family). The description in this document is valid for both versions.

Please note: Softune requires a special handling of the "Continue test execution" feature. You must not use the "Run" button within Softune. You need to use the command window instead.

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1 Fujitsu Softune Workbench

There are no special prerequisites necessary to work with TESSY and Softune Workbench. Softune will be started and closed automatically from TESSY for each test run.

1.1 Known Problems

There are some known problems with certain versions of Softune. Please check the Softune version using the **Help->About** menu entry within Softune.

Softune Version	Minimum Required TESSY Version
WB-16 V30L28 and earlier	Not supported any more
WB-16 (L/LX-Family) V30L30 and later	2.2.9
WB-32 (FR-Family) V60L03	2.4



















The Softune simulator version **V30L31** is known to **not work** properly when installed on **Windows XP**. In this case, Softune will be started from TESSY but nothing more happens. The Softune emulator may be used on Windows XP.

2 Module Attribute Settings

All Softune related files will be created or copied into the module's test directory. The Softune setup files control the kind of target to be used (e.g. simulator or emulator). Other settings within the module attributes control the compilation and link process. Please review the default settings applied when creating new modules within TESSY. You should change these settings within the **Environment Editor**, if any adaptations are required for your target.

2.1 Compile/Link

The Makefile template for the Fujitsu compiler uses certain settings for the memory layout and the memory model to be used, that may be adapted through the module's attributes. Please review the module attribute's settings to ensure a consistent configuration for the CPU, the memory model and the corresponding libraries and startup code as shown below.

 CPU	MB90V520A
 Duplicated Defines Header	
 Endianness	-
 ExeFile Extension	.wsp
 Init Code	
 Init Definitions	
 Library	905m
 Linker Options	
 Main Type	0x11
 Makefile Template	\$(TESSY_SYSPATH)\templates\make\ts_make_softune_fujitsu_ffmc16.tpl
 Model	MEDIUM
 ObjFile Extension	.obj
 Ram Begin	0x00010000
 Ram End	0x0001FFFF
 Rom Begin	0x00FF0000
 Rom End	0x00FFFFFF
 Startup Code	\$(Compiler Install Path)\lib\907\start905m.obj
 Setup File	\$(TESSY_SYSPATH)\targets\softune\907\simulate.sup

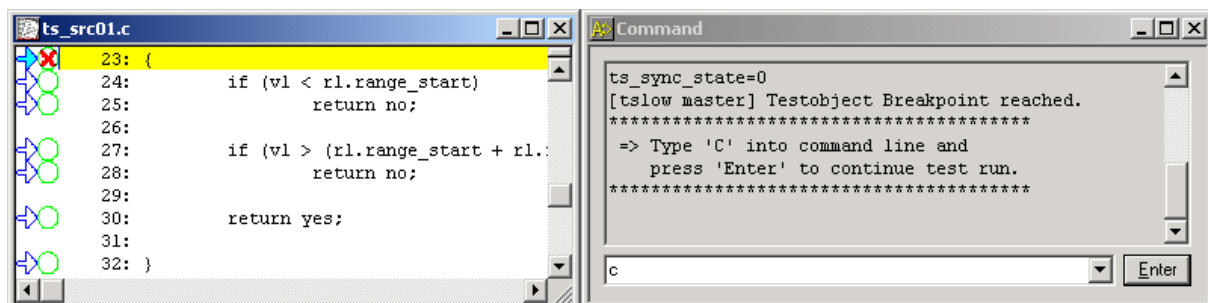
2.2 Softune Setup Files

The module attribute **Setup File** controls the kind of target for the Softune workbench. There are two predefined setup files available within the `sys\targets\softune` subdirectory of your TESSY installation. You may either copy your setup files used for development into that directory or change the **Setup File** entry accordingly to use your own setup files.

3 Continuing Test Execution

The test execution within Softune is controlled through a script, that is passed on the command line. When running the test without setting the testobject breakpoint, then no more action is required.

When stopping at the testobject, the command window within Softune will appear together with the source code window as shown below (Probably you need to arrange the windows to your needs).



You may now step through your test object and use all the functionality of the Softune workbench (e.g. watching variables).

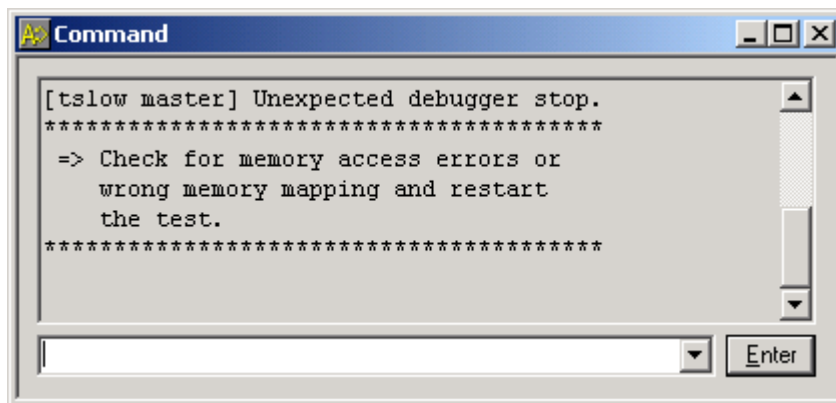
If you want to continue test execution to reach the next set of test data (e.g. the next test step), please **type 'c' into the command window** (or select it from history) and press the enter key. This will continue the script execution and though the execution of the test.

Please note: Clicking on the 'Run' button within Softune will void the synchronization between TESSY and Softune. In this case, you will need to exit Softune and abort the testrun within TESSY.

You may also **abort** the test run by typing '**a**' into the command line.

4 Troubleshooting

The following problems may occur during testing. Please check these sections, if Softune runs into an endless loop during test execution or stops with the following error message:



4.1 ROM Variables

Fujitsu doesn't allow to write to variables located into ROM memory. This will result in a runtime violation within Softune causing the test run to be stopped with the above error message.

In this case, change the passing direction of the respective variable to OUT or IRRELEVANT and rebuild the test driver.

4.2 Memory Settings

If the memory setup within the module attributes doesn't fit to the specified processor, Softune may also stop with the above error message during test execution. Keep in mind, that TESSY will probably need more RAM memory for the test driver (e.g. for transfer buffers) than your test object itself.

Please note: The RAM and ROM memory must not overlay any IO register mapped areas. Refer to the corresponding header file of the microprocessor in use to check the register layout.