Technical Note:

SCSI Test Component for the Cirris Touch 1 Cable Analyzer

(1000-Volt and 1500-Volt)

Version 1.0

20 January, 2000

CIRRIS

An ISO 9001 Certified Company

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Section 1: Information You'll Need

General description

The SCSI Terminator Test Component lets you test all kinds of SCSI terminators. In the prior version of the SCSI testing software, files for testing each type of SCSI terminator were created separately. In the SCSI Test Component, a single common test file is used by each terminator testing wirelist. Each type of SCSI terminator you test (with power on) has a matching test component within the SCSI test component file.

Touch 1 Software Version required

To use the SCSI Terminator Test Component, the testing software in your Touch 1 **must** be updated to Version 3.12 or later. This software supports scriptable components. Earlier versions of the software will not test SCSI terminators using the SCSI Terminator Test Component. This requirement applies to Touch 1 systems with both 1000-volt and 1500-volt hardware.

SCSI Test Component vs. Script Files

The SCSI Test Component operates differently than the script files used to test SCSI terminators in the past. The SCSI Test Component uses the Touch 1's display, print, test status, and cable count features directly. The script files used in the past did not do this. When you use the SCSI Test Component, the test results will include both those for the low voltage test, and the terminator test.

A terminator test that uses the Test Event Script File (*.LUA) will not have one of the SCSI Terminator Test Components in its `Check Components` section. The file will only refer to the test event script at the bottom, in the Script section. If you change your testing method by using the SCSI Test Component, you may delete the *.LUA files.

Terminator testing files that do use the SCSI Testing Component will have both a SCSI Test Component in the `Check Components` section, and the Components (C:\SCSITEST.CMP") at the bottom of the file in the `Script` section.

Compatibility with old SCSI testing files

In the past, two files (a Wirelist file, and a Script file) were needed for testing each SCSI terminator. In the SCSI Terminator Test Component, these files have been replaced. Unless you've modified your testing scripts, the tests performed on each terminator are the same whether you use the older files, or the new SCSI Terminator Testing Component. When you are using the SCSI Terminator Test Component, the wirelist can be modified or re-created, and the LUA script file can be deleted from the Touch 1.

Section 2: Do the Setup

Test Component advantages

By using the SCSI Terminator Test Component, you eliminate the need for multiple lua files to test SCSI terminators. Each SCSI test component is designed to test specific types of terminators.

Remember, when you insert a Test Component into a wirelist, parameters will be required in the same way that other components require parameters. Test Component parameters include the number of pins on the SCSI terminator you are going to test, and what other hardware is found on that terminator.

You can set up to use the SCSI Terminator Test Component in two different ways:

- You can use the SCSI Setup menu to create the new wirelist for you, and to place a copy of the SCSI Terminator Test Component onto your Touch 1 (Method 1).

- You can modify each wirelist that you use <u>after</u> you install the Test Component on your Touch 1 (Method 2).

You'll find that a copy of the Test Component is kept in the Samples directory of the SCSI Terminator Setup Disk, in case you should need it.

Method 1: Best Method for setting up the SCSI Test Component

We recommend that when you set up your Touch 1 to test SCSI terminators, you simply use the Setup Menu that is a part of the SCSI testing software.

When you use the Setup menu, the script you will need, and the parameter settings for the SCSI Test Component will be set up for you. This is the easiest method to use. When you use this method, you'll keep the chance of making mistakes to a minimum.

Important: If you've modified the wirelist for the connection resistance levels, or component values, you will need to make the same changes in the new wirelist. If you are not sure whether or not there have been changes made, be sure to make a copy of the existing files on your Touch 1 before you create new ones. Once you've done this, compare the settings to be sure that all of the parameters are set correctly in the new wirelist files. **If you use the same name for the new files as you used for the old ones, the old files will be overwritten!**

Method 2: Modifying the wirelist manually

This method is primarily intended to be used if you have already been testing SCSI terminators using a test event script (suffix .lua) instead of a component script (suffix .cmp); and you would like to change to using the Test Component manually, instead of using the Setup menu. The idea here is to manually delete the old test event script, and manually add a custom component (a component script, suffix .cmp, in this case) to the wirelist. In this method, you'll be changing these items:
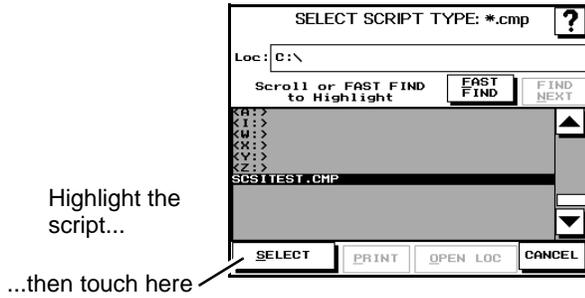
- You'll be adding the cmpScsiXXXX() to the Check Components section of the wirelist, where XXXX is the type of terminator as commonly abbreviated.

- You'll look up and select the Terminator Type, Hardware Type, and Pin Count for the terminator you want to test, from the displayed tables.

- You'll add the Component Test File into the SCRIPT section.

- You'll then remove the old *.LUA file which was formerly used to test the terminator.

To manually modify a wirelist to use the SCSI Terminator Test Component, you must first copy the SCSITEST.CMP file from the SCSI Setup source disk, to a directory on your Touch 1. Once the file is in your Touch 1, you'll need to follow these steps:

1. Add the Custom Component script to the file. In the **Main Menu** screen, touch Test Setup, then touch View/Change Wirelist.

2. In the **View/Change Wirelist** screen, touch More, then Script, then Change Script.

3. In the **Change Script** screen, touch the selection button under Custom Component Script.

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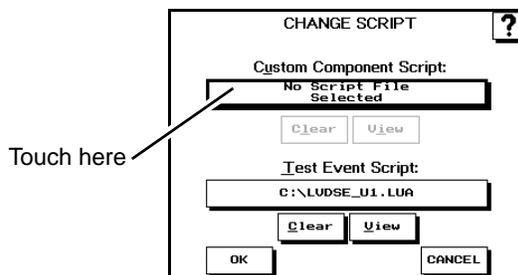
4. In the **Select Script Type .cmp** screen, highlight the scsitest.cmp script, then touch Select.

Highlight the script...

...then touch here

```
SELECT SCRIPT TYPE: *.cmp        [?]

Loc: C:\

Scroll or FAST FIND          FAST    FIND
  to Highlight               FIND    NEXT

<A:>
<I:>
<W:>
<X:>
<Y:>
<Z:>
SCSITEST.CMP

SELECT    PRINT    OPEN LOC    CANCEL
```

5. In the **Change Script** screen, touch Clear under the Test Event Script button.This deletes the old test event script from being used in the wirelist.

6. Touch OK in the **Change Script** screen.

7. In the **View/Change Wirelist** screen, touch More, then Comp, then Change Comp.

8. In the **Change Components** screen, touch Add.

Touch here

```
CHANGE COMPONENTS        [?]

  Highlight
Component For     Add    Delete   Change
Change & Del

1 LINK   -049 J1-016
2 C    1-049 J1-051 4.70 uF 20 %

        OK              CANCEL
```
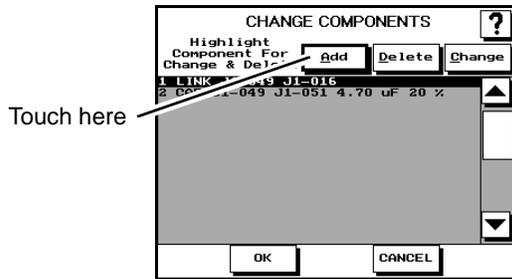
9. In the **Add Components** screen, touch Custom.

```
┌─────────────────────────────────┬────┐
│        ADD COMPONENTS           │ ?  │
│                                 └────┤
│      Select Component To Add:        │
│    ┌───────────┐   ┌───────────┐     │
│    │   Wire    │   │  Resistor │     │
│    └───────────┘   └───────────┘     │
│    ┌───────────┐   ┌───────────┐     │
│    │ Capacitor │   │   Diode   │     │
│    └───────────┘   └───────────┘     │
│    ┌───────────┐   ┌───────────┐     │
│    │  4W Wire  │   │4W Resistor│     │
│    └───────────┘   └───────────┘     │
│    ┌───────────┐   ┌───────────┐     │
│    │   Link    │   │Twisted Pair│    │
│    └───────────┘   └───────────┘     │
│    ┌───────────┐   ┌───────────┐     │
│    │  Custom   │   │Child Wirelist│  │
│    └───────────┘   └───────────┘     │
│          ┌────────┐                  │
│          │ CANCEL │                  │
│          └────────┘                  │
└──────────────────────────────────────┘
```
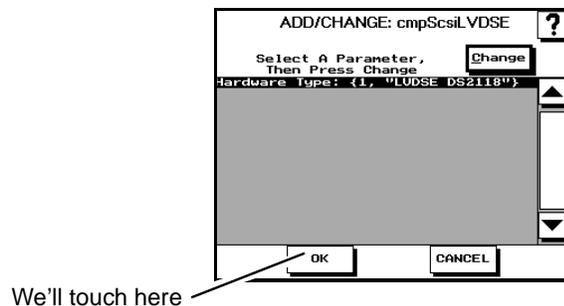
Touch here
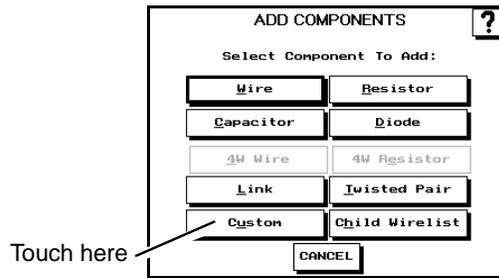
10. In the **Custom Componen**t screen, highlight the component you want to add (in our example, the LVDSE), then touch Select.

Highlight the terminator...

```
┌─────────────────────────────────┬────┐
│        CUSTOM COMPONENT         │ ?  │
│                                 └────┤
│      Select A Custom Component       │
│  Contained In The Attached Cmp Script│
│ cmpScsiFP:  Test Forced Perfect Term.│▲│
│ cmpScsiLVD:  Test LVD ONLY Terminator│ │
│ cmpScsiLVDSE: Test LVDSE Terminator  │ │
│ cmpScsiSEAN:  Test SE Act Neg Term.  │ │
│ cmpScsiSEACT: Test SE Active Term.   │ │
│                                      │ │
│                                      │ │
│                                      │▼│
│   ┌────────┐       ┌────────┐        │
│   │ SELECT │       │ CANCEL │        │
│   └────────┘       └────────┘        │
└──────────────────────────────────────┘
```
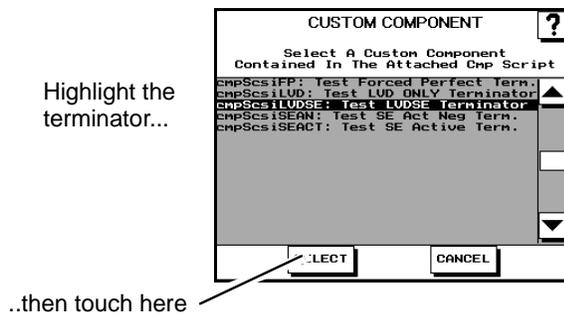
..then touch here

11. In the **Add/Change** screen, if the terminator you want to add is correct, touch OK. If it is not, touch Change. Select the correct component for the terminator you are going to test, then touch OK. (**Note**: In our example, the first component shown is correct).

We'll touch here

```
┌─────────────────────────────────┬────┐
│    ADD/CHANGE: cmpScsiLVDSE     │ ?  │
│                                 └────┤
│     Select A Parameter,   ┌────────┐ │
│     Then Press Change     │ Change │ │
│ Hardware Type: {1, "LVDSE DS2118"} │▲│
│                                    │ │
│                                    │ │
│                                    │ │
│                                    │ │
│                                    │▼│
│   ┌────────┐       ┌────────┐        │
│   │   OK   │       │ CANCEL │        │
│   └────────┘       └────────┘        │
└──────────────────────────────────────┘
```

12. In the **Change Components** screen (with the new SCSI terminator custom

component showing), touch OK.

Touch here
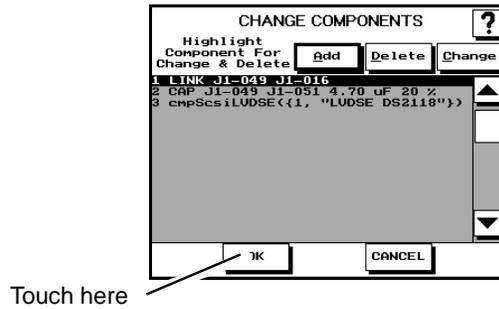
13. In the **View/Change Wirelist** screen, touch OK. You've now completed coverting to the SCSI Test Component from the older test event script. You should now **save these changes** to a wirelist.

Touch here
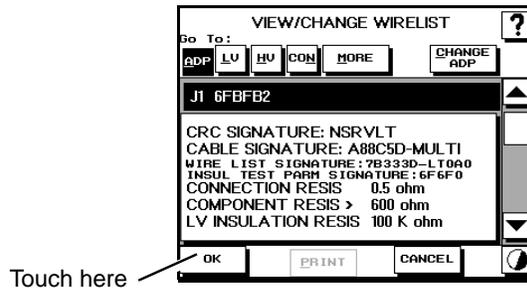
14. Save your changes. Touch Save Wirelist. If you choose to use the same file-name, the existing file will be overwritten. You may also choose to use a new filename. Touch Save to complete the process.

Potential pitfalls when you set up manually:

Although it is possible to manually reconfigure the SCSI Terminator Test Component to test other types of terminators, you do not have to do so. If you use Method 1, the "Best Method" for setting up, the Setup menu creates the wirelist you need, with all of the correct parameters already in place.

If you decide to make modifications to the wirelist by hand, there are things you should watch out for:

- There is no need to set up a given wirelist to test for more than one type of SCSI terminator within a single testing sequence. Putting more than one type of terminator in a wirelist may create errors. Putting multiple

copies of the same kind of terminator in the list may not create errors, but it is unnecessary.

• Be sure that when you select a type of SCSI terminator to add to your wirelist, that terminator type is compatible with the wirelist. The tables and other information below may be helpful.

When you select a given type of SCSI terminator, you're selecting a test for a specific component. Details are given in the table below.

Selections For The Type Of Terminator To Test

Terminator Type	Abbreviation	Component Test Selection Name
Single Ended Active	SEACT	cmpScsiSEACT
Single Ended Active with Active Negation	SE-AN	cmpScsiSEAN
Low Voltage Differential switchable to Single Ended	LVDSE	cmpScsiLVDSE
Low Voltage Differential Only	LVD	cmpScsiLVD
Differential Passive	DIFFPASS	Component test not required
Single Ended Passive	SEPASS	Component test not required
Forced Perfect X27	FPX27	cmpScsiFP

Parameters that can be set

The parameters you can set on some SCSI terminators are the Hardware Type, and the Connector Size. When you look at specific types of SCSI terminators, the available hardware will be listed by the Touch 1. **The Touch 1 can set all of these values <u>automatically</u>, when you use SCSI setup menu (Method 1, Best Method)**. Some of the hardware values are common to several types of terminators. These tables will give you the particulars.

Hardware Type Parameter

Hardware Type	Index Value	Valid Terminator Type (This Can Be Used In The Hardware Description Field)
DISCRETE COMPONENTS	No component index	DIFFPASS
RESISTORS 121 OHM	No component index	DIFFPASS
RESISTORS 127 OHM	No component index	FPX27
RESISTORS 191 OHM	No component index	FPX27
UCC5640	1	LVD
DISCRETE COMPONENTS	2	LVD
UCC5630	3	LVD
LX5241	4	LVD
DS2118	1	LVDSE
UCC5630	2	LVDSE
DS2119	3	LVDSE
LX5241	4	LVDSE
UCC5510	5	LVDSE
ALLCHIPS	6	LVDSE
IMP5241	7	LVDSE
G218	8	LVDSE
GMT1121	1	SEACT
DS2119	2	SEACT
DISCRETE COMPONENTS	4	SEACT (50 pin terminator)
DISCRETE COMPONENTS	3	SEACT (68 pin terminator)
DS2114	1	SE-AN
DS2107	2	SE-AN
Mot142237	3	SE-AN
DISCRETE COMPONENTS	No component index	SE-PASS

Connector Size Parameter

Connector Size	Index Value	Valid Terminator Types
50 pins	1	DIFFPASS, SEPASS, SEACT
68 pins	2	DIFFPASS, FPX27, LVD, LVDSE, SEACT, SE-AN, SEPASS