

How to Do a Circuit Test on a Titan Frame (T9160, T9116DSP, T9032DSP)

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Introduction

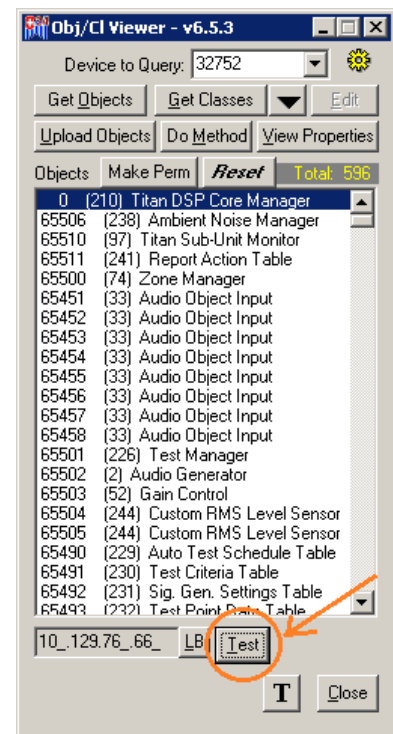
Sometimes it is helpful during installation or troubleshooting in the field to turn on a tone to a selected Titan frame output so that this signal can be traced or detected in the field wiring or receiving equipment. The built-in monitor/test capabilities of the Titan family of products, specially those that use the “core board” can do this using a feature called a Circuit Test. This document describes how this is done using the ViewProp tool. The steps involved are:

1. Launch ViewProp and connect to the Titan frame
2. Bring up the Test window and locate the Test Point(s) of Interest
3. Initiate (and Stop) a Circuit Test

Launch ViewProp and Connect

You should initiate ViewProp to communicate with the Titan frame in the usual manner. That is, first either enter the frame’s Device ID into the “**Device to Query**” field or the wildcard value of 32752. Then click on the IP Address field and enter the address in the pop-up box. Lastly, click on the [Get Objects] button. After the objects are populated in the list box, if the device has a Test Manager object, ViewProp will cause the [Test] button to appear near the bottom as shown on the screenshot to the right.

Clicking on this button will bring up the Test window.



Locate Test Points of Interest in the Test Window

When the Test window comes up initially, it is blank. The first task is to figure out what the Test Point IDs are as defined in the frame. These are set by System Management Center (SMC) portion of GCK, but since SMC only shows you descriptions, not Point IDs, you need to do some discovery work to get the IDs.

*Note: If no points are found in the steps below, then one should go back to SMC, open the Monitor/Test window and hit the **[Apply]** button to send test point data down to the frame.*

We want to be sure that some Test or Set operation has been run on the frame since it was powered up. This can be done by clicking on the **[Get Tests]** button. If tests have been run, then a list will appear such as in the example shown at right.

If there are no tests returned or no tests in the list, then we need to run a “test set” for a sequence, such as #1. This is done by entering **1** into the “Test Seq.” edit box/drop-list and then pressing the **[Seq Set]** button to run a test set for that sequence. After waiting until the testing has time to complete, one should retrieve the tests again with the **[Get Tests]** button.

Now, we can retrieve the actual test results by clicking on the **[Get Results]** button and filling in either the Serial # or Sequence # you read from the test list.

The screenshot shows the 'Test Manager Methods' window. At the top, there is a 'Test Seq. #' dropdown set to '3' and several buttons: 'Stop Test', 'Seq. Set', 'Seq. Test', 'Circuit Test', 'Get Tests', 'Get Results', and 'Flush Results'. Below this is a table with the following data:

Serial #	Sequence #	Mode Flags	Date/Time	Pass Count	Fail Count
1	3	\$80D0	8/25/2021 9:21:26 AM	0	0
2	1	\$9000	8/25/2021 9:23:00 AM	32	0
4	1	\$9000	8/25/2021 9:27:20 AM	32	0
12	2	\$9000	8/25/2021 9:51:26 AM	30	0

At the bottom, there are input fields for 'Serial #:', 'Mode Flags:', 'Test Date/Time:', and a '# Records:' field showing '4'.

The screenshot shows the 'Test Manager Methods' window with a dialog box open. The 'Test Seq. #' dropdown is set to '1'. The dialog box has a title bar with a close button (X). It contains a radio button selection for 'Sequence' (selected) and 'Serial #'. Below this is a text input field containing '1' and a 'Get 'em' button. The main window table is empty, and the bottom status bar shows '# Records:' as an empty field.

Now, you should see a list of test results such as at right with Test Point IDs displayed in the first column. It is simply a matter of counting down from the top to the Network Bus ID of interest. In this example, ID 7 test point is highlighted (59th Street's in the NYCT head end T9032DSP frame).

Point ID	delta T (sec)	Setting Code	Set Level(dB)	Test Level(dB)	Test Results
97	0.56	1	-4.5	-4.5	\$01
98	1.13	1	-4.5	-4.5	\$01
99	1.75	1	-4.6	-4.6	\$01
100	2.31	1	-4.5	-4.5	\$01
101	2.94	1	-4.6	-4.6	\$01
102	3.50	1	-4.4	-4.4	\$01
103	4.06	1	-5.3	-5.3	\$01
104	4.69	1	-4.5	-4.5	\$01
105	5.25	1	-4.5	-4.5	\$01
106	5.87	1	-4.5	-4.5	\$01
107	6.44	1	-4.8	-4.8	\$01
108	7.06	1	-4.5	-4.5	\$01

Serial #: 2 Mode Flags: \$9000 Test Date/Time: 8/25/2021 9:23:00 AM # Records: 32

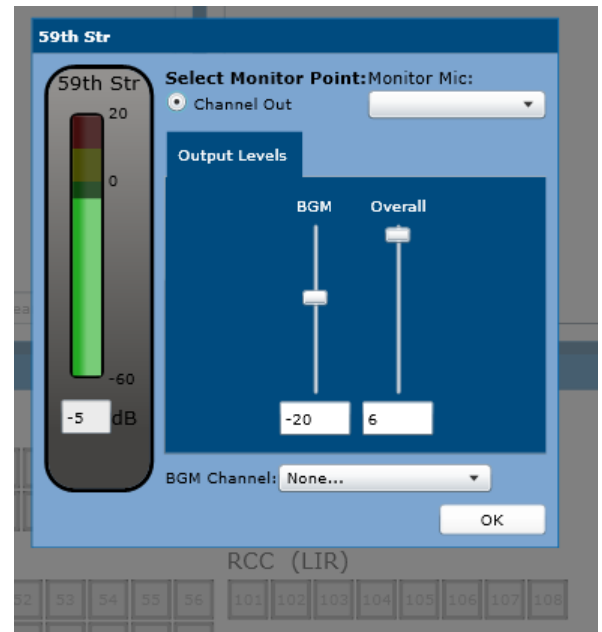
Now, you are ready to actually perform the Circuit Test for a point. First you click on the **[Circuit Test]** button and fill in the Test Point ID in the top box. I recommend using **Test Setting Code 1** for this. (This was the only code I found that worked in the NYCT Test System, although I thought codes 1..3 should have worked.) Leave the **Test Mode Flags** at the default value and click on the **[Run Test]** button. You can click **[OK]** on the notification pop-up that appears.

Point ID	delta T (sec)	Setting Code	Set Level(dB)	Test Level(dB)	Test Results
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98	1.13	1	-4.5	-4.5	\$01
99	1.75	1	-4.6	-4.6	\$01
100	2.31	1	-4.5	-4.5	\$01
101	2.94	1	-4.6	-4.6	\$01
102	3.50	1	-4.4	-4.4	\$01
103	4.06	1	-5.3	-5.3	\$01
104	4.69	1	-4.5	-4.5	\$01
105	5.25	1	-4.5	-4.5	\$01
106	5.87	1	-4.5	-4.5	\$01
107	6.44	1	-4.8	-4.8	\$01
108	7.06	1	-4.5	-4.5	\$01

Serial #: 4 Mode Flags: \$9000 Test Date/Time: 8/25/2021 9:27:20 AM # Records: 32

You can/should verify signal coming out of the Titan frame. You do this in SMC by going to the Overview section → Announcements page and double-clicking on the corresponding output zone of the Titan frame. Then, click on the **Channel Out** or **Amp Out** radio button (depending on the type of Titan frame). (*Selecting a Monitor Mic is optional and only useful if on-site with a rack mount mic with speaker.*)

Once the radio button is selected, one should see the meter displaying a signal such as the example shown at right. The level depends up on the test tone level configured in SMC, so may differ from what is shown in this example.



The Circuit Test likely will time out after a minute or two but can be stopped with the **[Stop Test]** button back in the ViewProp Test window.