

# **“PS\_DIAGNOSTIC Adapter” Frequently Asked Questions**

Release: 1-Jan-2008

Update: 1-July-2009 Added command for desktop programmer check using PS\_DIAGNOSTIC adapter.

## **PS DIAGNOSTIC adapter :**

You can use PS\_DIAGNOSTIC adapter to automatically check programmer DACs calibration. It is also of great use to calibrate your programmer manually in case the programmer DACs are out of calibration. You can generate report output file regarding the calibration status of the programmer and maintain for your records.

## **What's H/W and Software requirement :**

- The PS\_DIAGNOSTIC test only runs in DOS environment.
- You should have access to calibration trimmers located on programmer's base PCB in case you wish to calibrate the programmer manually.
- Optitest.exe software B/2009 or later. You can download the software from <http://www.dataio.com/ftp/sprint/optima/dos/tstdzipo.exe>

## **At what voltage levels the DACs are tested for their calibration :**

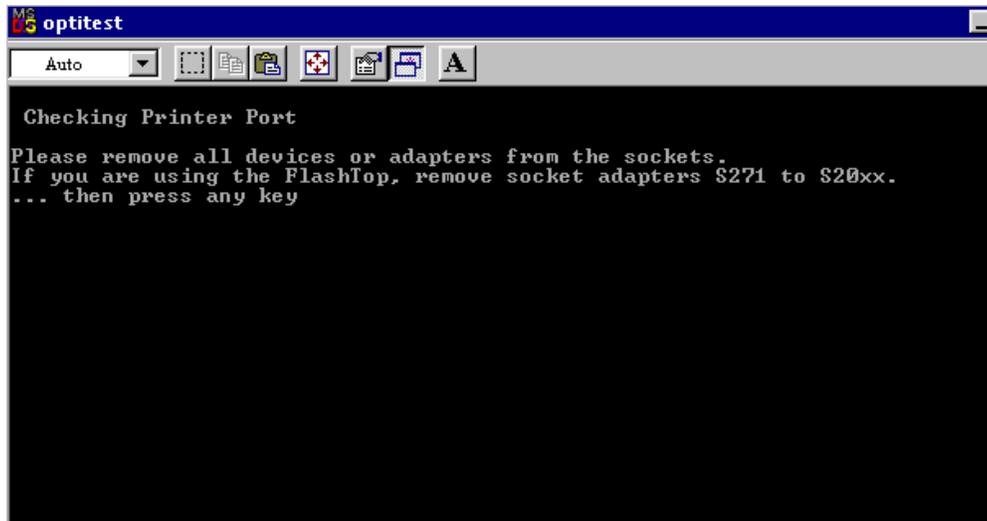
The Sprint programmer has 4 different DACs in it. These are named as VCC, VPP1, VPP2, VPUP. These DACs are tested for their calibration at different levels and different precisions.

- DAC VCC is tested for 5.0V (max) and 2.0V (min) with +/- 50mV precision.
- DAC VPP1 is tested for 12.0V (max) and 3.0V (min) with +/- 100mV precision.
- DAC VPP2 is tested for 12.0V (max) and 3.0V (min) with +/- 100mV precision.
- DAC VPUP is tested for 5.0V (max) and 2.0V (min) with +/- 100mV precision.

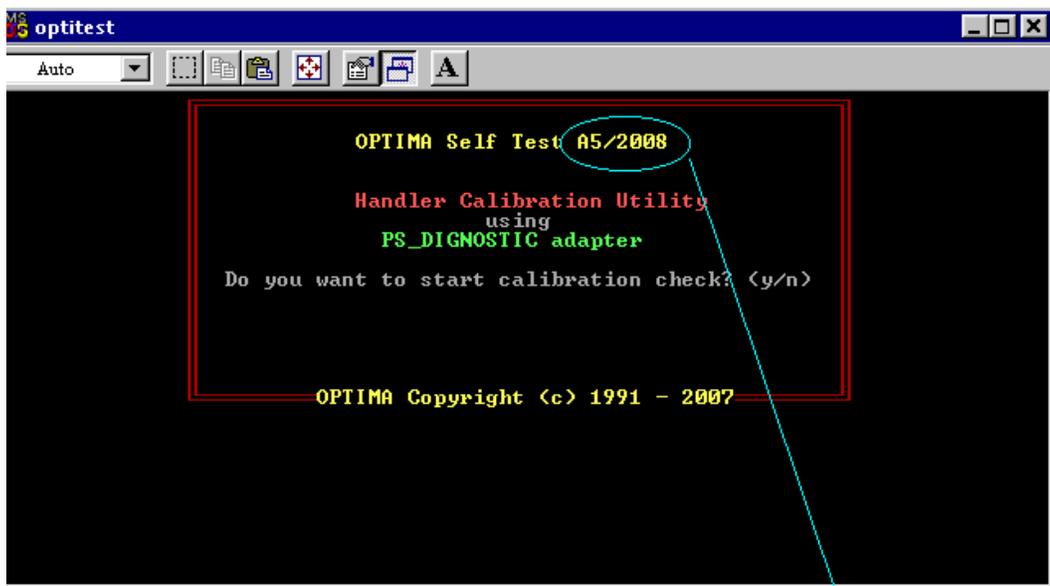
If any DAC is found out of calibration when tested to above values you can use set the failing DAC to specified voltage precision.

## **How to check Programmer calibration :**

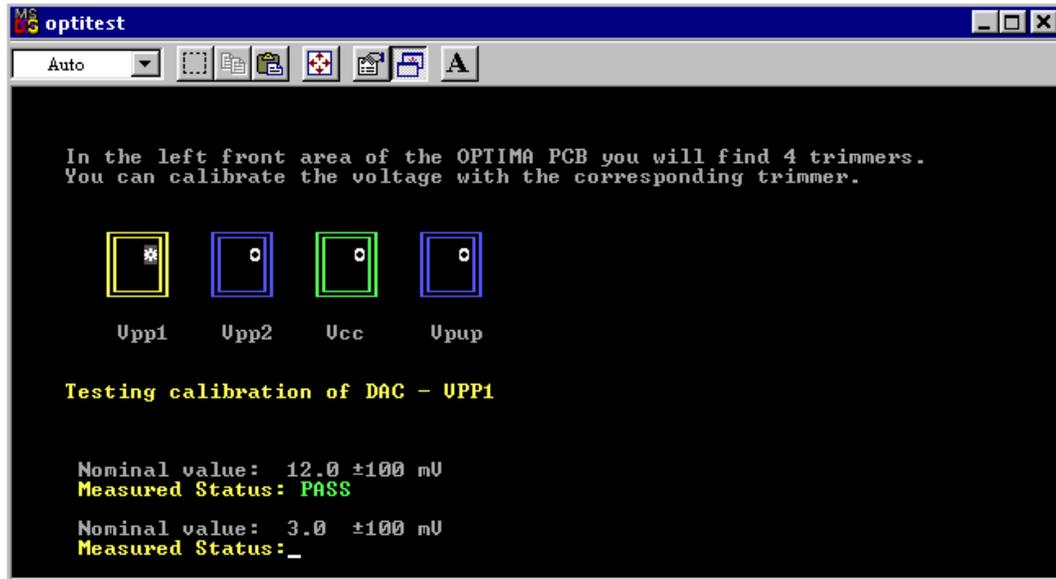
- Make sure that PS\_DIAGNOSTIC adapter is inserted in the programmer base whose calibration needs to be tested before you power ON the programmer.
- Power ON the programmer and run program “optitest.exe”.
- Program will establish communication with programmer and do self test of programmer.



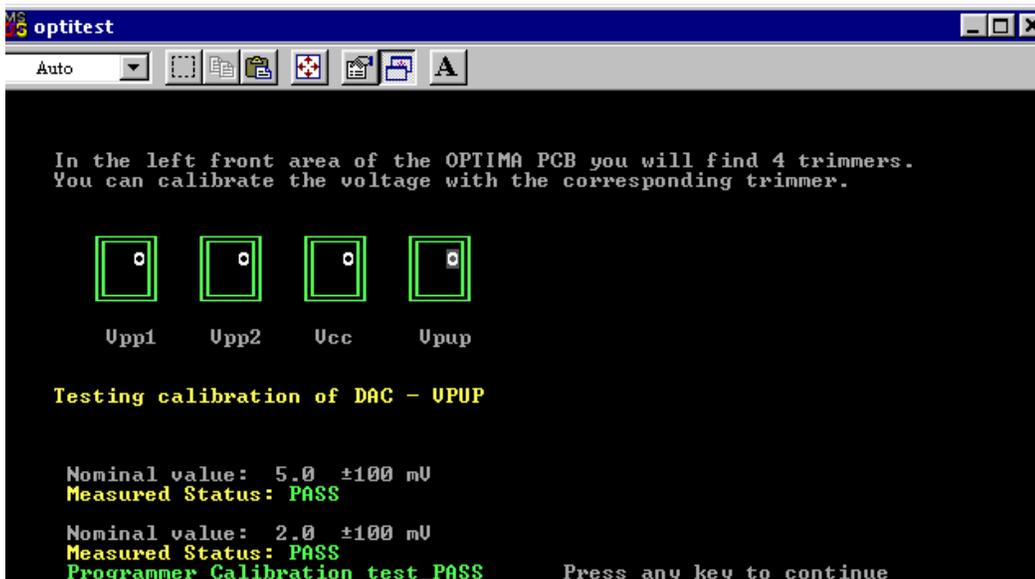
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- As first step of this process it will detect PS\_DIAGNOSTIC adapter installed and check its health. Please note that the program will terminate immediately if PS\_DIAGNOSTIC adapter is not installed correctly or is faulty. Contact DATA-IO to get this corrected.



- **"Optitest.exe" software version information can be viewed here**
- Press key "Y" to start programmer calibration test. Pressing key "N" will terminate the process.
- After successful communication set up with programmer and self test, programmer will start process to test calibration of programmer DACs.
- You can see the progress on the screen. A "GREEN" colour status of a DAC represents that the DAC calibration is correct. A "YELLOW" colour status of a DAC represents that the DAC calibration is in progress. A "RED" colour status of a DAC represents that the DAC is out of calibration and need immediate action to calibrate.



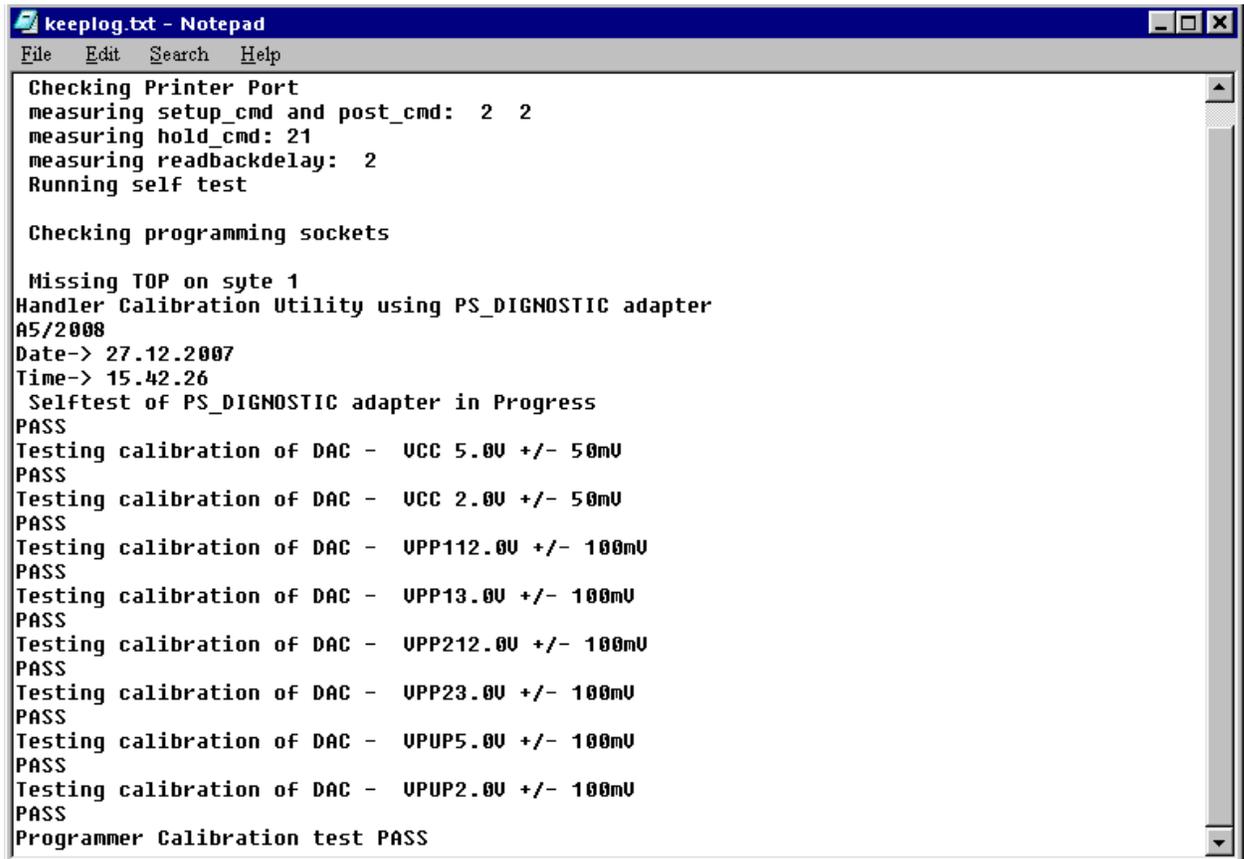
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- If a DAC is found out of calibration during the test the software will flash the error message indicating this and gives option to you to skip further calibration tests of the failing DAC or start manual calibration immediately.
- In case you select to skip the calibration check of failing DAC, the program will proceed with calibration tests of remaining DACs. In case you select calibrating the manually follow the instructions on the screen so as to calibrate the DAC. It is requested that you should turn the respective trimmer, slowly, clockwise or anticlockwise as directed on the screen. The programmer checks the DAC continuously for its calibration and once it comes in the calibration range it flash message as "PASS". Stop immediately turning the trimmer at this moment. A slow turning movement will help not to overstep the calibration.
- If all the DACs are correctly calibrated the program will terminate indicating "GREEN" status for all the DACs.



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### How to generate report file output of Programmer calibration :

You can generate report file output regarding the status check of programmer DAC calibration. From command prompt run the program optitest.exe > keeplog.txt Here Report.txt is the file name which will be created with detailed report. You can choose any file of your wish. The file will be created in the same directory where optitest.exe is located. The report file include different information like optitest.exe software version, date and time of test, calibration status of all DACs. Below picture shows how a report file looks like.



```
keeplog.txt - Notepad
File Edit Search Help
Checking Printer Port
measuring setup_cmd and post_cmd: 2 2
measuring hold_cmd: 21
measuring readbackdelay: 2
Running self test

Checking programming sockets

Missing TOP on syte 1
Handler Calibration Utility using PS_DIGNOSTIC adapter
A5/2008
Date-> 27.12.2007
Time-> 15.42.26
Selftest of PS_DIGNOSTIC adapter in Progress
PASS
Testing calibration of DAC - UCC 5.0U +/- 50mU
PASS
Testing calibration of DAC - UCC 2.0U +/- 50mU
PASS
Testing calibration of DAC - UPP112.0U +/- 100mU
PASS
Testing calibration of DAC - UPP13.0U +/- 100mU
PASS
Testing calibration of DAC - UPP212.0U +/- 100mU
PASS
Testing calibration of DAC - UPP23.0U +/- 100mU
PASS
Testing calibration of DAC - UPUP5.0U +/- 100mU
PASS
Testing calibration of DAC - UPUP2.0U +/- 100mU
PASS
Programmer Calibration test PASS
```

- You can save the file in soft format or take printouts to record them in paper file.

### I am getting wrong visual trimmer positions when I am testing my desktop programmer:

When you are testing desktop programmers calibration using PS\_DIAGNOSTIC adapter, use the command as-

“Optitest -d”

Adding the argument ‘-d’ to the “optitest.exe” will show correct trimmer positions in visual messages.