



WORK INSTRUCTION

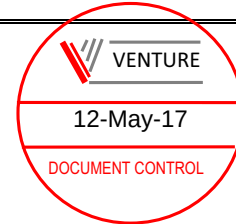
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Title : PREVENTIVE MAINTENANCE OF GTS TESTER



1.0 OBJECTIVE

- 1.1 To define preventive maintenance of GTS Tester.

2.0 SCOPE

- 2.1 This procedure is applicable to Engineering Assistant and Test Engineer.

3.0 RESPONSIBILITY

- 3.1 The PCBA Test Engineer is responsible for any procedure changes to ensure that the procedure is clear and understood by the Engineering Assistant or Test Engineer who performing the maintenance.

4.0 PROCESS FLOW CHART

- 4.1 N.A.

5.0 PROCEDURE

5.1 Calibration

- 5.1.1 Calibration of the tester instruments will be perform by the 3rd party annually.

5.2 Maintenance of Test System

Preventive Maintenance will be perform Monthly in-house by Assistant Engineer or Test Engineer.

5.2.1 PC Maintenance

- 5.2.1.1 Tick the space provided in the Preventive Maintenance Checklist of items or actions that requires as in Attachment1 (ENG-071).
- 5.2.1.2 Log in as TE-1 (administrator) with credentials supplied by TE.
- 5.2.1.3 Open the Windows Disk Defragmenter utility. Run Analyze.
If analysis says the volume needs to be defragmented the defragment now. If the analysis says you do not need to defragment this volume then exit the Disk Defragmenter.
- 5.2.1.4 Check fan operation of PC; ensure that vent is clear of dust.Clean the filter.
- 5.2.1.5 Verify system date, time and time zone. Adjust if necessary.
- 5.2.1.6 Verify Symantec Antivirus service is running (you will see icon in system tray). Open Symantec Antivirus by double clicking on antivirus icon in system tray and verify dates on each type of protection. Ensure that definition files for each type of protection is <30 days old. If definition files cannot be updated, contact TE to upgrade anti-virus software.
- 5.2.1.7 Login as tester, with credentials supplied by TE. If the Screen saver tab is available, ensure that the time out is 240 minutes, with star field screensaver selected. Ensure that on resume, 'password protect' or 'display login screen' is selected.
- 5.2.1.8 Verify desktop wallpaper is Waters approved "The Science of what's possible" or none with a black background.



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- 5.2.1.9 Inspect all cabling to the rear panel of the PC (Ethernet, serial, monitor, keyboard, mouse, etc). Ensure they are secure and in good condition. Replace as needed.

5.2.2 Tester (GTS) Maintenance

- 5.2.2.1 Tick the space provided in the Preventive Maintenance Checklist of items or actions that requires as in Attachment1 (ENG-071).
- 5.2.2.2 Power down the GTS. Note the PC stays powered on, this is OK.
- 5.2.2.3 Remove and clean the air inlet filter, located at the bottom front of the GTS.
- 5.2.2.4 Remove and clean the Lambda Power Supply filter.
- 5.2.2.5 Inspect the VPC Interface (Figure 1). Vacuum the connector blocks. Ensure rows 5 and 6 contain blank panels.

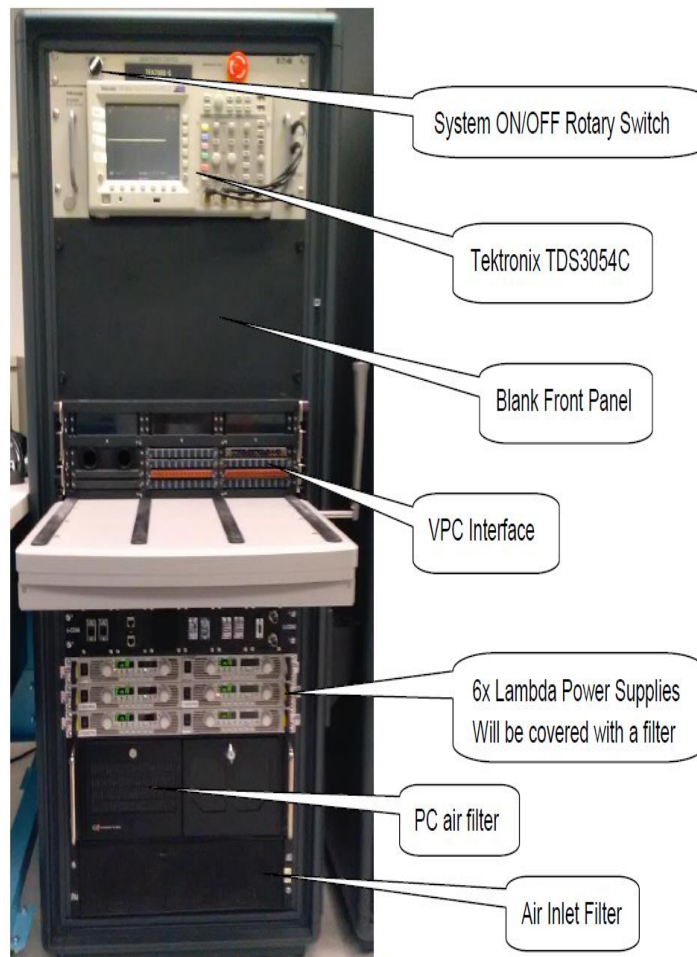


Figure 1
GTS Front View



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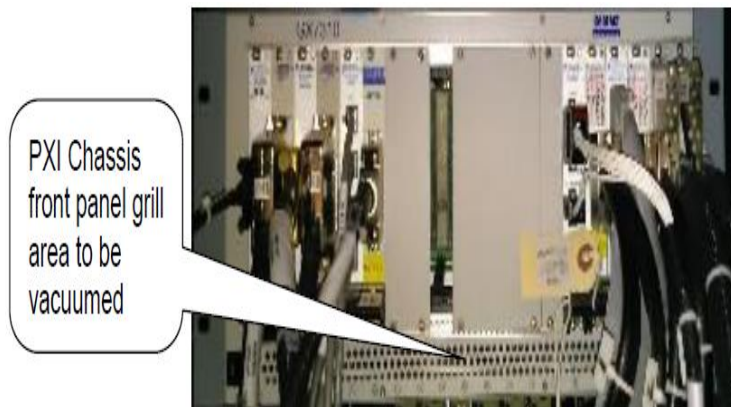
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5.2.2.6 Remove GTS Blank Front Panel, located above the VPC Interface.

5.2.2.7 Vacuum the PXI Chassis front panel grill (as shown below), below the PXI cards. Use a soft brush attachment to get behind/underneath the PXI cables. Take care not to stress the cables.



5.2.2.8 Inspect the rear panel of the Agilent 34411A DMM and Agilent 33220A FG for debris and dust around the fan as shown photo below. Use vacuum to clean as required.



5.2.2.9 Reinstall the GTS blank Front Pannel

5.2.2.10 Open door located in the rear of the GTS.

5.2.2.11 Vacuum the perforated grill area and fans located on the rear panel of the PXI Chassis as shown photo below.





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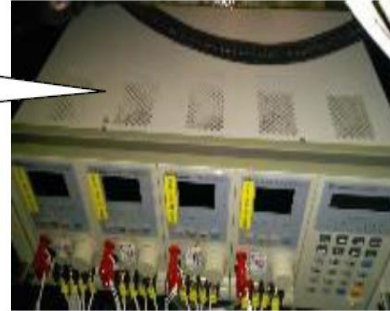
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5.2.2.12 Vacuum the perforated grill area located on the top of the Chroma Loads Chassis as shown below.

Chroma Chassis
top perforated
grill area



5.2.2.13 Vacuum the air inlet and fan areas on the rear panel of the oscilloscope as shown below.

Oscilloscope
fan



Oscilloscope
air grill

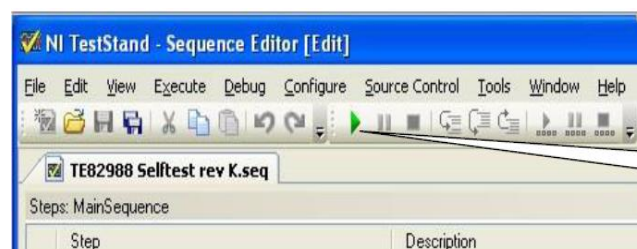
5.2.2.14 Power on the GTS. Restart the PC. Login as tester with credentials supplied by TE.

5.2.2.15 Install the Selftest Fixture. TE83004

5.2.2.16 Open Teststand from Start>Programs>National Instruments>TestStand 4.2.1>Sequence Editor. Login to TestStand by simply clicking on the OK button.

5.2.2.17 From Teststand load the Selftest program: File>Open Sequence File; browse to C:\GTS Selftest\; select file "TE82988 Selftest.seq".

5.2.2.18 Run Selftest: Click on the green Run Arrow in the toolbar as shown below. When prompted for a Serial Number use the GTS TE#



Run Arrow



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6.0 KEYWORD, ABBREVIATIONS and DEFINITIONS

6.1 Keyword, Abbreviation and Definition is stored in Keyword, Abbreviation and Definition Masterlist which is available directly in GES Singapore QM, SOP, WI and other document and records Lotus Notes Database (Filename: DocControl2\NewSOP.nsf)
N.A

7.0 REFERENCES



7.1 ASSOCIATED EXTERNAL DOCUMENTS

Document	Reference description
NA	NA
NA	NA

7.2 ASSOCIATED INTERNAL DOCUMENTS

Document type	Document number	Document title
NA	NA	NA

8.0 RECORDS CONTROL

Record	Retention Period	Location	Responsible
WATERS GTS TESTER (TE82988-3) PREVENTIVE MAINTENANCE CHECKLIST	7 years	Test Engineering	Test Engineer



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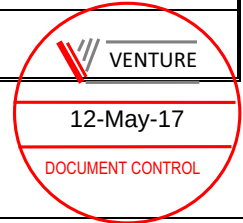
DOCUMENT CONTROL

9.0 ATTACHMENT/APPENDICES

9.1 Attachment 1 – WATERS GTS TESTER (TE82988-3) PREVENTIVE MAINTENANCE CHECKLIST

Attachment 1

GES SINGAPORE PTE LTD		ENG-071/00 (WI-ENG-048)	
WATERS GTS TESTER (TE82988-3) PREVENTIVE MAINTENANCE CHECKLIST			
1. PC Maintenance Check			Result
A. Check fan operation and vent is clear from dust			
B. Check date, time , time zone			
C. Check antivirus is running			
D. Check PC wallpaper for Waters Approve " The Science of what's posible "			
E. Check all cables pheriperal are connected properly			
2. Tester Maintenance Check			
A. Check and clean the bottom air inlet filter located in front of the tester			
B. Check and clean the lambda power supply filter			
C. Inspect the VPC and check for any damage probe or connector			
D. Check and clean the PXI Chassis front panel grill			
E. Check all cables pheriperal are connected properly			
F. Check and clean the rear pannel of the Agilent 34411A DMM and Agilent 33220A			
G. Vacuum and clean the perforated area and fans of the PXI chassis rear			
H. Check and vaccum the perforated grill area on top of Chroma Loads			
I. Check and clean the air inlet area on the rear panel of Oscilloscope			
J. Check the tester vacuum			
K. Install the Selftest fixture and perform tester selftest			
3. Final Result and Remarks			
Done By:		Month:	



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