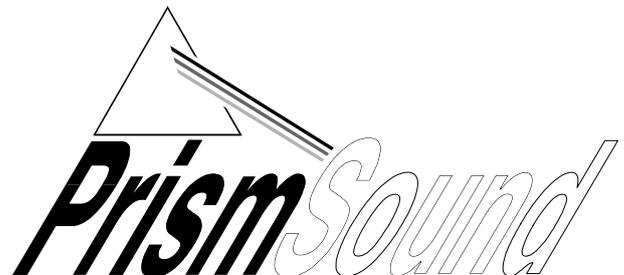
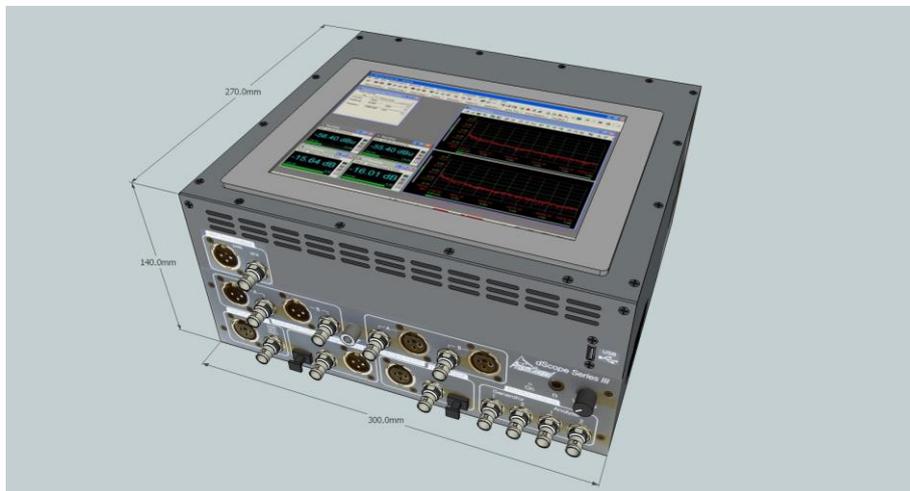


Supplementary Operations Manual & Service Guide

dScope Series III-TS Integrated Test Set

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Supplementary Operations Manual & Service Guide

dScope Series III-TS Integrated Test Set

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1 Introduction

This manual is a supplement to the main dScope Series III series of manuals, for users of the dScope Series III-TS integrated test set.

This manual covers those aspects unique to the integrated dScope Series III-TS version.

The dScope Series III-TS is simply a self-contained integrated unit incorporating a large fanless XGA multifunctional touch panel PC, internally permanently connected to the standard and well-proven dScope Series III hardware and running the standard and also well proven dScope Series III software.

The integrated computer runs the Microsoft Windows® operating system, Windows 7 or later, Professional version.

All necessary dScope Series III-TS (dScope) software is pre-installed and the system is configured to boot into the dScope software.

The general operation of the software, scripting and included software applications (such as the AES17 test suite) are exactly the same as those for the standard dScope Series III family of products where the host computer is provided separately.

For some users, a customized start-up configuration may be provided. Details of this, if applicable, are provided separately.

2 dScope Series III-TS system overview

The dScope Series III-TS is a completely self-contained analogue and digital audio test set.



The unit may be operated in a variety of orientations so that the user can choose the most convenient. Typically these are:

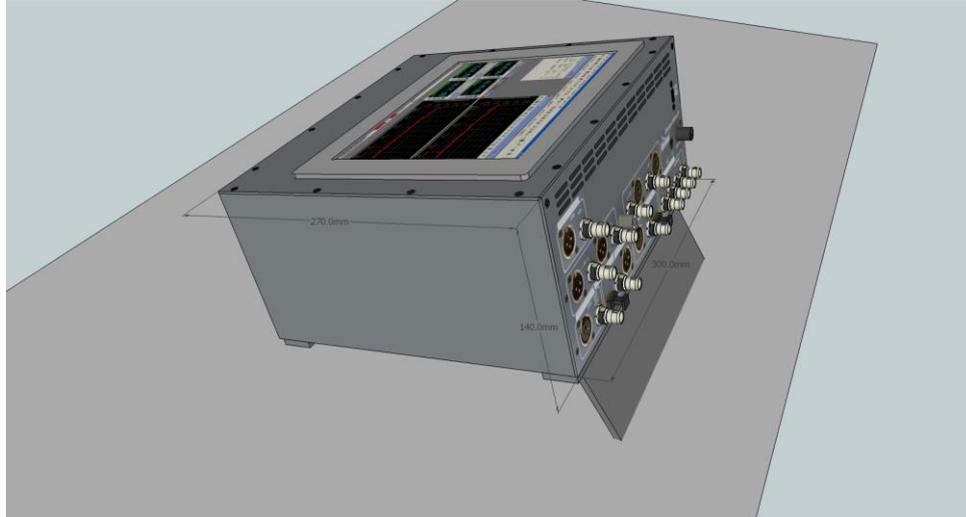
- Upright, as in the illustration above.
- Laying down, touch screen facing up and connectors towards the operator
- Laying down, touch screen facing up and connectors away from the operator

If the unit is laying down with connectors away from the operator, or standing up as shown above, the screen display can be reversed using a software control so that it is the right way up when viewed by the operator.

When laying down with connectors facing the operator the screen orientation is as follows:



When using the unit laying down as above, extendable feet may be folded down so that the unit is inclined to approximately 15 degrees to make viewing and touch-screen operation more comfortable. These are provided on front and rear so that both forward and rear-facing connector arrangements can accommodate comfortable operation with the unit inclined towards the operator as below.



2.1 External Interfaces

The following external connectors are provided:

2.1.1 Measurement Interfaces

Analogue Audio out (XLR & BNC, balanced or unbalanced s/w selectable)

Analogue Audio In (XLR & BNC with adaptors for unbalanced sources)

Digital Audio Out (XLR, BNC & TOSLink Optical, AES3 or SPDIF)

Digital Audio In (XLR, BNC & TOSLink Optical, AES3 or SPDIF)

Reference Inputs (BNC or XLR, AES11, Wordclock or Video black & burst)

Reference Outputs (XLR & BNC, AES11 or Wordclock)

Monitoring Outputs (4xBNC, software selectable signal routing)

Headphone Output and Volume control (Integral speaker, ¼-inch headphone jack)

2.1.2 Power inlet

IEC with integral fuseholder and on/off switch, provides mains voltage selection

2.1.3 USB port

USB 2 port for printer, memory stick, external keyboard & mouse via USB hub (not supplied)

2.2 Touch Screen computer

The dScope Series III-TS incorporates a large fanless XGA TFT multifunctional touch panel PC running Windows 7 Professional or later.

2.2.1 PC & screen general specifications

- Large Resistive Touch Screen; unit external size 196mm x 260mm
- Intel® Atom™ Dual-Core (17W) CPU
- Supports VGA, Audio
- Gigabit Ethernet (not made available externally on dScope Series III-TS)
- 1 CF, 1 COM, 2 USB
- Power Supply voltage range: Voltage Input +12V ~ 26V
- VESA Compliance
- IP-65 front panel
- LED Backlight
- Resolution 1024 x 768
- Viewing Angle 88 (U) , 88 (D) , 88 (L) , 88 (R)
- SSD One drive bay available; minimum 128GB SSD fitted
- 1GB SDRAM and One SODIMM Supports Up to 3GB
- Watchdog Timer, Reset: 1 sec. ~ 255min. and 1sec. or 1min./step

3 Getting started

On removal from packaging, check that the supplied accessories are all present (2xRCA-XLR adaptors, 4x RCA-BNC adaptors, Installation CD, power cord) and that the unit is undamaged.

Check that the correct mains voltage is set on the selector in the IEC power inlet module on the rear of the unit (see dScope Series III Operation manual page xxx).

Connect the power cord to mains power and switch on the dScope Series III-TS units at the IEC power inlet.

The Panel PC will run through the Windows boot sequence and present a login screen. Touching the screen at the login button will bring up the on-screen touch keyboard automatically. Use the default Username "dscope". The default password is also "dscope". This can be changed later if desired. Refer to Windows documentation for details of how to manage user accounts and passwords.

On logging in to Windows, the dScope software will start automatically and will present the opening screen which may have been customized for your application.

Refer to the main operations manual (on the menubar: Help->Help Contents and then select "Operations Manual" from the navigation tree in the left-hand pane).

It is suggested that users unfamiliar with dScope Series III take the "Quick Tour". This is an introduction to dScope Series III coded in VB Script in the same manner as a test automation script. The Quick Tour is available in the User ToolBar (User Bar) near the top of the screen.

4 Troubleshooting

Note: Servicing should only be carried out by a qualified technician.

Operation manuals are available on the CD supplied with the product and may also have been provided in hardcopy although this is not included as standard.

You may also download the dScope Series III operations manual and other manuals from the Prism Sound web site at:

http://www.prismsound.com/test_measure/products_subs/dscope/dscope_downloads.php

There are many documents at this link. You can short-cut directly to the operations manual using this link if you prefer:

http://resources.prismsound.com/tm/dS3_Operation_Manual_A4nc.pdf

4.1 Entire unit is unresponsive

If the touch panel PC appears to be unresponsive and the red LED on the dScope Series III-TS connector panel is not illuminated at all you may need to investigate the power connection to the unit.

Check that your mains power wall outlet is functional.

If so, check the fuse at the rear of the dScope unit. Take care when replacing the fuse to insert it correctly. Refer to the main operations manual for details of how to accomplish this in section "5.1.1 Changing the mains voltage or fuse" on page 1.161.

4.2 Computer touch screen is black and unresponsive

You may need to determine if the touch-screen computer requires service or repair.

First check the internal DC power supply for the screen using a DC voltmeter. This is located inside the unit near the IEC power inlet and has a black flying lead that runs to the power inlet of the touch screen PC.

Unscrew the knurled nut on the power connector to the touch panel PC and remove the DC power connection.

Check that the voltage at the DC power supply outlet is 12V. This unit should be capable of supplying at least 30W.

If OK, reconnect and tighten the retaining nut. Check that the power on switch on the panel PC is in the "ON" position.

If the screen PC is completely inactive you may need to replace it, or purchase a replacement power supply. Contact your Prism Sound representative for assistance.

If the screen PC fails to boot correctly into the dScope application you may either require assistance with configuration or a replacement flash drive. Contact your Prism Sound representative for assistance.

4.3 Screen reports no dScope Series III hardware

If the dScope System unit fails to start and the LED on the main connector panel remains Red then the dScope hardware may have become disconnected. Open the case of the unit and check that the USB cable is correctly connected between the panel PC and the dScope host interface board (a sub-board on the main dScope system PCB). If so, then there may be a problem with the dScope electronics. Contact your Prism Sound representative for advice.

If the connector panel LED is not lit, but power is applied to the unit, check the fuse and that the mains power supply is functional. If both are OK, contact your Prism Sound representative for advice.

4.4 Windows does not start normally

If Windows reports a problem while starting up, refer to your Prism Sound representative for advice, noting full details of any error messages that are displayed during the boot sequence.

4.5 System does not boot into dScope application

If the dScope software does not start after logging in to Windows, use the desktop icon or windows start menu to select the dScope application. If the software fails to start contact your Prism Sound representative for advice.

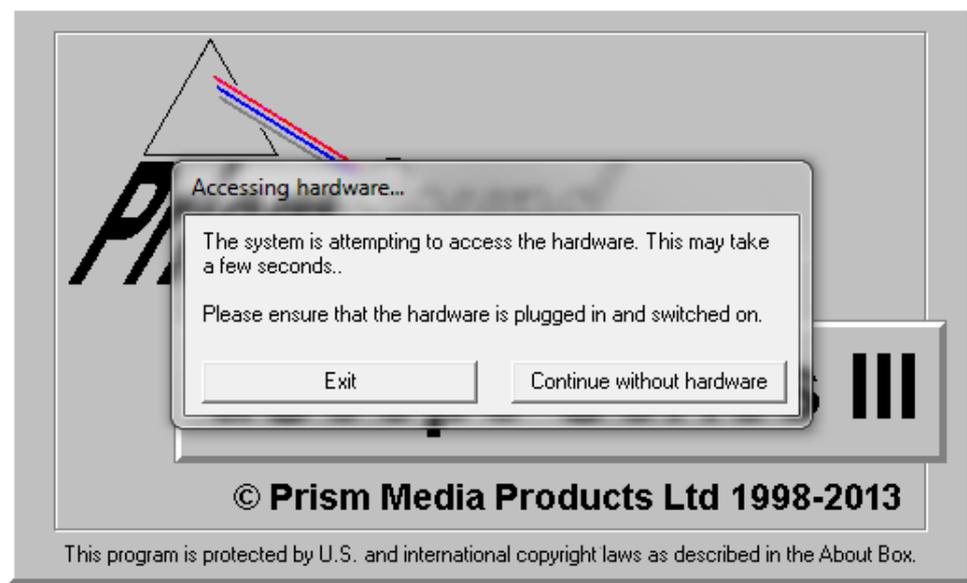
4.6 Checking your dScope hardware status and software version

Users may need to inspect their dScope Series III instrument(s) to affirm that they are operating correctly, or to determine if servicing by the original manufacturer is required.

The following list outlines a series of checks that will verify that the dScope Series III system is operating correctly, and will help to troubleshoot any problems.

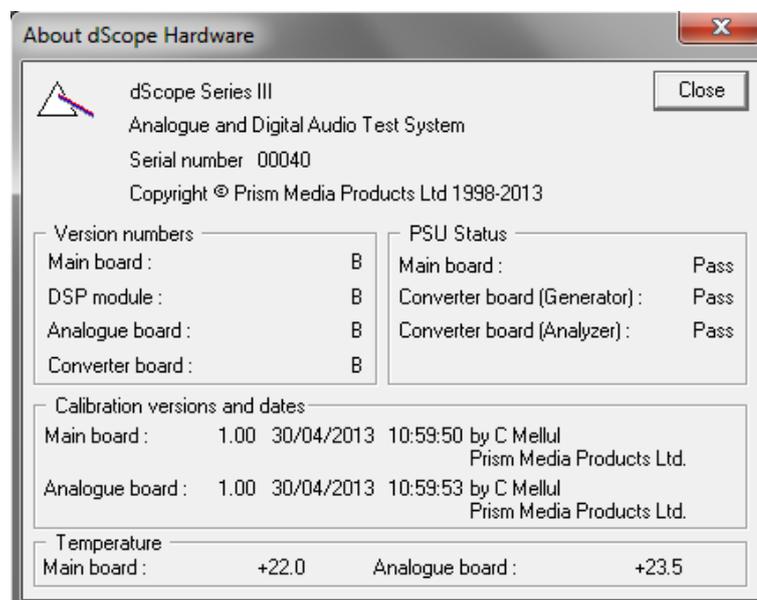
- Ensure that the dScope software is installed and running.
- To check which version of software you have installed on your system, consult the section on 'Software Version' below.
- Connect AC mains power to the dScope hardware, and turn the mains power switch on. The connector panel LED should illuminate red. If the connector panel LED does not illuminate, check that the mains voltage selector has been set correctly, and check the condition of the fuses at the dScope mains inlet and in the AC power cable. See the main operations manual section "5.1.1 Changing the mains voltage or fuse" on page 1.161.

- If the dScope software does not start automatically, launch the dScope software from the panel PC. You may see the following screen briefly:



If the above screen is displayed for more than 10 seconds please first read section 4.3 and if necessary contact your Prism Sound representative for advice.

- If the software now launches, the hardware should switch from standby mode into active mode, and the connector panel LED should switch from red to green. The fans on the side of the instrument should also activate.
- If any error messages are displayed on launching the dScope software, consult your local Prism Sound representative for advice, quoting the error message.
- When the software has launched, select 'About dScope Hardware' from the 'Help' menu. The following window will be displayed:



- Check that the PSU status is 'Pass' for each of the three PSUs. If any PSUs show '*Fail*', please return the dScope hardware to your local Prism Sound representative for further diagnostics.

NOTE: For the dScope Series III TS, this check does not cover the panel PC DC power adaptor which must be checked separately (see section 4.2).

- You can obtain the software version number currently installed on your PC by launching the dScope software and selecting 'About dScope' from the 'Help' menu. The following panel will be displayed:



In order to ensure that you benefit from the latest features, Prism Sound advises that you periodically check for software updates at www.prismsound.com/test ; the latest software version will be available by clicking 'Support' -> 'Downloads'.

When communicating with Prism Sound or your Prism Sound representative about any problems with your system, please quote the version of the software that you are using.

5 Self-Test Utility

If the above checks all indicate that the system is working, but you are experiencing problems making any measurements, there are a number of checks that can be undertaken to ensure that the analogue and digital signal generator and signal analyzer are working correctly.

Please contact your Prism Sound representative to obtain the latest version of Prism Sound's self-test software application. This will allow you to run a full functional test on your dScope system, and an HTML report will be generated. If the self-test report indicates a hardware failure, a calibration or repair may be needed. Please contact your Prism Sound representative and provide a copy of the self-test report.

A "Self Test" button is provided on the User ToolBar that runs the self test script. A mode of Self Test is available for user convenience that uses no external connections and instead uses internal loop-back relays.

5.1 Installation

There are three files associated with the self test utility (also provided on your installation discs):

Self Test.dsc - the configuration

dS3 Self Test.dss - the automation script

dScope Self Test Script Notes vxxx.pdf - documentation

The first goes to the dScope configurations folder, the latter two should go together to the dScope Scripts/Automation folder. There is no installer.

5.2 Running the test

Starting the script loads the configuration "Self Test.dsc" and then displays the references form below:

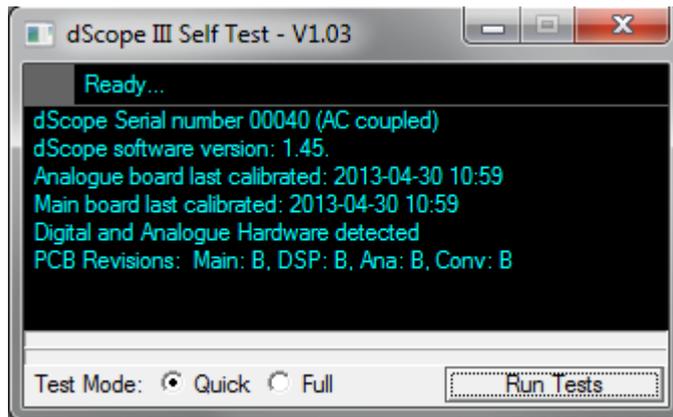
The screenshot shows a dialog box titled "dScope III Self Test - V1.03 - details". The form contains the following fields and values:

- Inventory Number*: 1234
- dScope Serial Number 00040 (AC coupled):
- Organisation and Site Details (Section Header)
- Operator*: Jim
- Organisation*: Sound Company
- Contact email address*: jim@soundco.com
- Site Name*: main site
- Temperature (C): 32
- Humidity (%): 56

Buttons for "OK" and "Exit" are visible at the bottom right.

All the fields except the temperature and humidity are required fields. If the temperature or humidity are entered, they are validated.

Once this is OK'd the script moves on to the main screen:



The box in the top left shows the status of the test as it progresses. Next to that is a status line that says what the test is currently doing. Below that is a screen to show the progress through the test. Below that are two progress bars which show the progress through the current test and the overall progress (top and bottom bar respectively). Then there are two test mode options and a Run/stop toggle switch.

Here the basic idea is that you decide what kind of test to do:

5.2.1 Quick Mode

Takes about 2 minutes

Checks only internal paths (no loopback cables required)

Checks the gain ranges only twice

Checks data integrity is established on the digital connection

Not so important to wait for the hardware temperature to stabilise

The purpose of this mode is to run a quick functional test without any external equipment or cables. It only checks that the dScope digital and analogue generator and analyzer are functional on one internal connection each. It checks the relay and gain functionality, but not the health of the relays.

5.2.2 Full Mode

Takes about 11 minutes

Checks all digital paths and internal and external analogue paths (loopback cables are required)

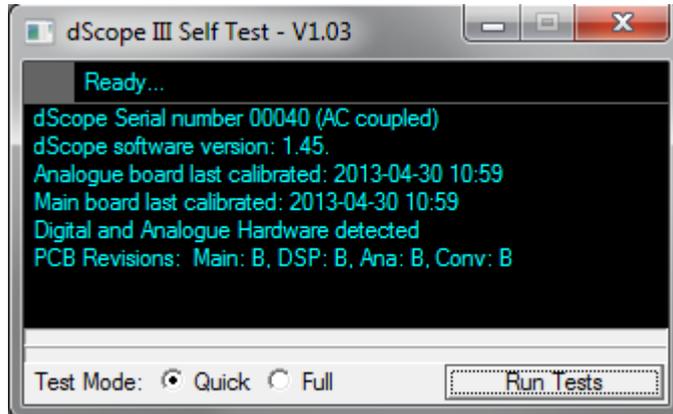
Checks the gain ranges and relays 20 times: 5 times each sweeping up and down, on internal and external connections.

Checks data integrity is established and maintained for 4 seconds on each digital connection.

Important to wait for the hardware temperature to stabilise (or the standard deviation of the measurements may be compromised by thermal drift – this effect is very small, but we are looking for standard deviations of less than 5 thousandths of a dB (0.005dB))

The purpose of this mode is to run a fairly quick and yet thorough functional check of all the digital and analogue paths and to check all the gain ranges repeatedly looking for variability.

All being well after selecting “Quick” or “Full”, a short while later you will see:



The script automatically generates an HTML report in the dScope reports folder (which is created by the script if it doesn't exist already).

The reports folder is usually located at:

C:\Program Files\Prism Sound\dScope Series III\Results

6 Repair & Calibration

6.1 Repairs

We recommend that all repairs are undertaken by Prism Sound or your local Prism Sound representative to ensure that your instrument's performance is not degraded.

If a repair is needed, please contact your Prism Sound representative for instructions. You will be advised what further information may be needed to assist with diagnostics.

6.2 Calibration

Your Prism Sound dScope Series III system is a precision measurement instrument, and is supplied calibrated to traceable standards. The instrument is shipped complete with a calibration certificate, which is valid for 12 months from the date of manufacture.

In critical applications, it is recommended that your instrument is calibrated on a regular basis to ensure that its absolute amplitude and frequency accuracy remains within the manufacturer's quoted specifications.

If you wish to calibrate your instrument, and obtain a fresh 12 month calibration certificate, please contact your local Prism Sound representative.