

5529A-01A

S E R V I C E N O T E

SUPERSEDES: 5529A-01

HP 5529A Dynamic Calibrator

Serial Numbers: 0000A00000 / 9999A99999

Software Revision A.01.10 and A.01.13 Anomalies

Duplicate Service Notes: 5529V-01A

To Be Performed By: HP-Qualified Personnel

Parts Required: None

Below is a list of known anomalies and workarounds in Revision A.01.10 and A.01.13 of the HP 5529A/V Dynamic Calibrator software.

FLATNESS AND WAY STRAIGHTNESS MEASUREMENTS

- For Flatness and Way Straightness, the measurement data is too large by a factor of 4.85. This also causes large measurements to appear noisy. In the "Set Up Flatness" and "Set Up Way Straightness" screens, change the Optics Cal Factor to 4.85. (It is located in the "Optics" section on the left side of the screen.) The Cal Factor will divide each data point by 4.85. This will correct the measurement problem. (If you are using the HP 10559A Angular Optic from the HP 5526A system, then you need to use a Cal Factor of 7.79, instead of 4.85.)

NOTE - This anomaly has been corrected in Revision A.01.13.

Continued

DATE: 12 January 1994

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:

INFORMATION ONLY

AUTHOR:

ENTITY:

ADDITIONAL INFORMATION:

MDM

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- If your Way Straightness measurements exceed the graph scale in the Collect Data screen by more than 100 times, there is a chance of fatal overflow and the program may be terminated to Windows. The default scale values are always 250 microinches/micrometers. Be sure to change this scale value (upper left box of graph) to within 100 times of your expected largest data point.

PRINTING & PLOTTING

- When plotting or printing, the screen suggests that you can make more than one copy at a time. The software currently does not support this feature, and specifying more than one copy may cause the system to crash. Always select only one copy at a time.
- Numerical information on plotted data sometimes overrun the boxes they are in. This behavior is very dependent upon the printer/plotter drivers installed in Windows; identical printers with different drivers can produce vastly different results. Make sure the installed driver is compatible with the printer/plotter device.
- The [Setup...] button on print and plot screens does not call up any dialog box. The best way to configure a printer is by using Windows' Print Manager.
- The [Plot ISO 230-2] button in the Analyze Data screen does not allow you to cancel a plot once it has been pressed.

COMPENSATION TABLE SCREEN

- The interpolation parameters in the Compensation Table screen are not adequately checked for improper values. Specifying 0 for Interval will cause a "Divide by 0" error, and specifying a small interval such that the total number of points is large will cause an "Out of Memory" error. Both of these errors will crash the software.

It is highly recommended that all data be saved before specifying interpolation in order to avoid accidental loss of data.

SET UP MEASUREMENT SCREEN

- Under some circumstances, saving a setup file that contains a user-defined target list and no data causes all targets to be set to zero when recalled. This may crash the system.

A user-defined target list is created by pressing the [Show Targets] button on the Set Up Measurement screen and then modifying individual targets. Always take at least one data point before saving this type of setup. The data point can be erased after the setup is recalled.

COLLECT DATA SCREEN

- On-Line help for Arm Auto Trigger on the Collect Data screen is incorrect; it refers to the Record button. Also, the Arm Auto Trigger button does not give a visual clue that it has been activated. The On-Line help for Arm Auto Trigger on the Collect Data should read as follows:

The proper implementation of Auto Trigger is as follows:

1. On the Set Up Measurement screen, select Trigger: Auto and specify desired Target Window, Trigger Window, and Trigger Dwell.
2. On the Collect Data screen, move the machine to its starting point and press Reset Position to zero out the laser.

3. Back the machine tool out of the target window such that the status reads "Outside Target Window."
4. Press the Arm Auto Trigger button.

The system is now armed and will take data automatically as the machine tool moves to each target position. If you leave the Collect Data screen before completing the data set, you can continue where you left off upon reentry by repeating steps 3 and 4.

- On some occasions, the upper numeric display in the Collect Data screen will produce a small font, approximately 1/10 of the normal size. It is unknown if this problem still exists. Exiting and re-entering this screen may fix the problem. Numbers entered by the keyboard always appear approximately 2/3 of the normal height.
- The displayed digits on the lower numeric display in the Collect Data screen can sometimes be shifted off screen to the right by pressing [], but then cannot be fully recovered by pressing []. Exiting and reentering the Collect Data screen should recover the missing digits.
- The highlight color on several edit controls (in particular, the Y-Axis control on the graph in the Collect Data screen) does not immediately respond to changes in Microsoft Windows' color palette, whereas other highlighted controls throughout the software do. Quitting and then restarting the software will update these controls.

ANALYZE DATA SCREEN

- Squareness and Parallelism plots do not properly position the title and added text as they appear on the display. Added text placed in the top graph may actually show up in the bottom graph, and vice versa. Also, the title may not show up.
- For Way Straightness, the Numerical Analysis box can be picked up and moved with the mouse, but it cannot be directly placed at a precise location on the screen. When the mouse button is released, the box jumps.
- For Flatness, when displaying the Numeric Graph, elevation numbers on lines 3, 5 and 7 may run together if there are a large number of stations specified or the elevations contain many digits. There also may be text box problems similar to Squareness and Parallelism described above.

SET UP ENVIRONMENTAL COMPENSATION SCREEN

- Under most applications, if WOL is kept to the range of 0.999 to 1.0, there should be no problems. However, when one of the numeric fields holds you hostage because it contains an invalid number, type in a number that will make it happy, even if this is not the desired number, then work backwards through the other screens parameters that affect the number's calculations to restore it to its desired value.
- Air pressure and humidity have a similar problem. If humidity is 50% and you enter 0 for air pressure, WOL becomes greater than 1. If humidity then gets the input focus, it will not let you leave until you enter 0%, even though entering a non-zero air pressure is really what you want to do.

TIMEBASE MEASUREMENTS

- In the "Set Up:TIMEBASE" window, the Laser Velocity always indicates zero, instead of the true velocity. There is no workaround. NOTE - This anomaly has been corrected in Revision A.01.13.

MANUAL MISPRINTS

- The sentence that spans pages 2-11 and 2-12 of the HP 5529A Measurements Reference Guide is incorrect. It should read: "The arrow on the interferometer's label that does not point to the attached retroreflector must point to the external reflector, i.e., away from the laser head."
- The hint on page 2-6 of the HP 5529A Installation Guide states that the Most Significant Bit (MSB) of the address switch is the right-most switch. It should state that the MSB is the left-most switch.