N1000A-01

Information Only Service Note

Supersedes:
NONE

N1000A DCA-X Wide-Bandwidth Oscilloscope Mainframe

Serial Numbers: ALL

Timebase calibration requires a 24-hour bake out period for optimal accuracy.

Parts Required:
NONE

ADMINISTRATIVE INFORMATION

XX Calibration Required	PRODUCT LINE: 8F
[[]] Calibration NOT Required	AUTHOR: MM

ADDITIONAL INFORMATION:

KEYSIGHT TECHNOLOGIES

© Keysight Technologies 2015-2021

Situation:

Timebase linearity is impacted by humidity as well as temperature and it is ideal to perform timebase calibrations under conditions which match the expected instrument operating conditions. Because humidity changes occur relatively slowly, timebase calibrations should be performed only after a suitable bake out period.

Keysight's timebase calibration test code confirms that the instrument has been powered on for at least 24 hours before allowing the timebase calibration to begin. While the amount of humidity accumulated in the instrument depends on the length of time it has been powered off as well as ambient humidity, 24 hours is considered to be a sufficient bake out time for all commonly expected circumstances. Because it may be necessary to briefly power off the instrument before calibration begins, for example, to move it from one bench to another, the test code does allow the operator to bypass this check.

Solution/Action:

Before bypassing the 24-hour humidity bake out check, please ensure that one of the following conditions have been met:

- Choice #1: The instrument has been in continual use at the customer's bench for a long time (24 hours minimum). This is the ideal case because operating conditions are met exactly.
- Choice #2: The instrument has been powered on for at least 24 hours while in its bake out state. While in the bake out state, the hardware will continually make acquisitions, causing humidity to be baked out at an accelerated rate. To enter the bake out state on an N1000A mainframe, power the instrument on and exit out of FlexDCA (File > Exit).

The time for which the instrument is powered off in between bake out and calibration should be minimized as far as possible. Depending on the power off duration, additional power on time is required before beginning the timebase calibration:

- If power off time is less than 1 hour, leave the instrument powered on for an equal amount of time before calibration (e.g. if off for 5 minutes, 5 minutes powered on time is required).
- If power off time is between 1 hour and 6 hours, leave the instrument powered on for at least 1 hour before calibration.
- If power off time is greater than 6 hours, then the full 24-hour bake out period is required.

For on-site calibrations, please share this service note with customers in advance, allowing for sufficient time to plan and bake out all instruments. If the bake out period will be achieved while the instrument is in the customer's possession, then the customer is responsible for accurately communicating to Keysight whether the conditions have been met or not.

Performing a timebase calibration when bake out conditions have not been met will result in a less ideal timebase calibration and will impact measurement accuracy. Do not bypass the 24-hour humidity bake out check unless you are certain that the bake out conditions have been met.

© Keysight Technologies 2015-2021

Revision History:

Date	Service Note Revision	Author	Reason for Change
10 March 2021	01	MM	As Published

© Keysight Technologies 2015-2021