



## Q'n Apps #S60

**Q: When should I run calibration and diagnostics?**

### **Calibration and Diagnostics**

In general, we all know to run diagnostics if we suspect a problem with our tester. But what are the appropriate times to run diagnostics and calibration, even when we *don't* have a problem? This Q'nApp will help you understand this.

#### **Diagnostics**

Here is a short list of the times you should run full diagnostics:

- ❑ When you suspect a hardware problem
- ❑ After replacing a component to fix the problem
- ❑ When software has been upgraded
- ❑ Prior to running full calibration or NIST calibration
- ❑ As a preventative measure on a regular basis, such as weekly or monthly. (Some users with testers in critical Production venues may even wish to run diagnostics daily)

When troubleshooting a failure, you may run only the diagnostic that failed prior to replacing a board in order to save time. But after the problem is corrected, full diagnostics should be run as well. Diagnostics can be run without calibrating, and if you have previously failed calibration you may wish to delete the calibration file (CAL8.DAT or CALG3.DAT, depending on your system) to insure it does not interfere with diagnostics.

#### **Calibration**

Running full calibration serves to insure that all system resources comply with specifications and are traceable to NIST standards. Additionally, it also acts as a "super diagnostic" because it can find problems with compliance that diagnostics cannot. This is when you should run the full calibration:

- ❑ When any board has been replaced
- ❑ When any PE board has been moved to a different slot
- ❑ When software has been upgraded
- ❑ Prior to running NIST calibration as well as afterwards
- ❑ As a preventative measure, typically on a monthly basis

It is important to note that all diagnostics *must pass* prior to running the calibration or the calibration can be expected to fail.

## NIST Calibration

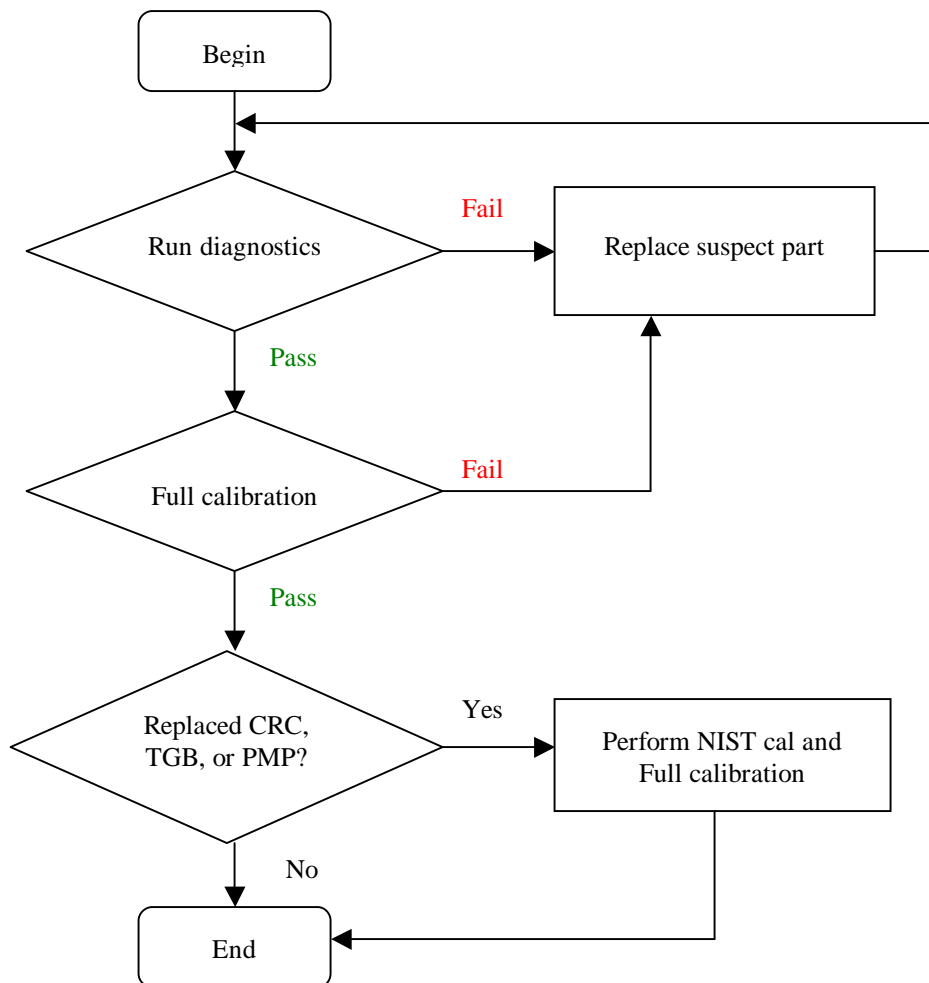
The NIST calibration sets the internal reference sources for voltage and timing to meet National Institute of Standards and Technology compliance. This is done using external instruments (i.e., DVM, Frequency counter) that have been calibrated to NIST standards. Here is a list of when the NIST calibration should be done:

- ❑ Every six months (180 days)
- ❑ Anytime a system basic board is replaced (CRC, PMP, TGB)
- ❑ When the backplane or a system power supply is replaced

The NIST calibration procedure requires that both diagnostics and full calibration pass before performing NIST calibration. Full calibration should be run again after completing the NIST calibration.

## Flow Chart

Use this flow chart for the correct way to run diagnostics and calibration, and to help with troubleshooting



See Also: **QnApp S16**: Symphony files