

# WHAT IS THE RIGHT CALIBRATION INTERVAL?

## There is no “one size fits all” answer.

Determining the right calibration interval for your test and measurement equipment depends on many factors with no “one size fits all” approach available. Several factors can influence your test equipment’s measurement accuracy and should be considered when evaluating and determining the calibration interval.

### Questions to Consider:

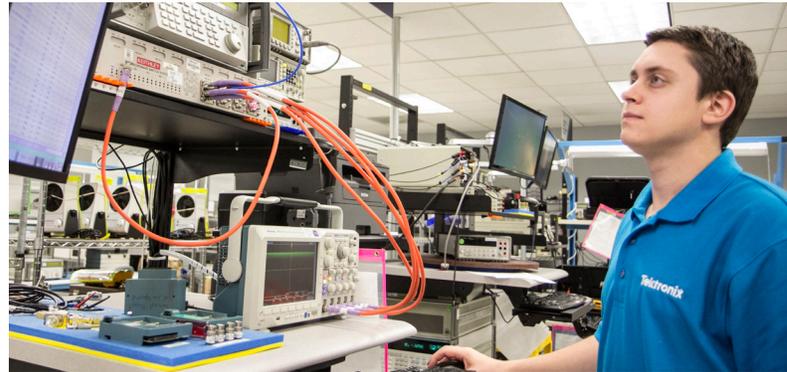
- Does the end-use application or organizational quality program dictate a specific calibration interval?
- What is the historical reliability of the test instrument, or how often has the instrument been found out-of-tolerance during calibration?
- How often is the test instrument used?
- What is the required accuracy for your application?
- What are the environmental conditions (temperature, humidity, air quality, etc.) where the instrument is stored and used? What impact might those conditions have on instrument performance?
- What is the relative cost of calibration compared to the potential cost of a quality issue with your product or service?

### Initial Calibration

Consider calibrating test and measurement instruments prior to first use if you do not receive data from the manufacturer at the time of purchase. The initial or baseline data can then be used as a reference for future calibrations. An initial calibration can also support a potential warranty claim to the manufacturer or supplier. Retaining calibration history may also influence future decisions about calibration interval for that piece of equipment or similar equipment.

### Regulatory or Specified Requirements

Some test equipment, based on the end use, has a regulatory or specified recurring calibration interval. One example would



be radiation monitoring. In that case, the federal code of regulations establishes the applicable calibration interval.

### Statistically Derived Interval

In the absence of external requirements for specific interval of calibration, the end user may simply choose to recalibrate test equipment on an annual interval or other predetermined interval until such a time that there is sufficient measurement data recorded to analyze the short and long-term behavior of equipment. Adjustments to an interval using mathematical and statistical methods based on historical measurement data can provide a specified or targeted end-of-cycle reliability based on known established risk.

### Manufacturer-Recommended Calibration Interval

Manufacturers will often recommend in their operation manual how often a product should be performance tested. The calibration interval recommendation from manufacturers is based on “typical” use.

### Unscheduled Calibration

Test equipment accidentally dropped, mishandled, overloaded, or suspected of nonconforming results requires recalibration to ensure confidence in performance. Additionally, a facility or cell relocation may require an out-of-cycle calibration.

## In Conclusion

Recurring calibration based on the appropriate interval allows you to use test equipment with confidence and ensures you can safely and reliably use instruments to get the accurate test results you expect and need. The interval of test equipment calibration is influenced by many factors and ultimately needs to be determined by the end user and communicated to the calibration service provider. Tektronix has the expertise and system tools to assist customers with calibration interval analysis that will enable you to manage your risk and reduce your overall cost of calibration.

## ABOUT TEKTRONIX

Tektronix is the world's leading multi-brand service provider of calibration, repair and related services for test, measurement and control equipment. Tektronix provides:

- Services for equipment from 9,000-plus manufacturers — far more than just Tektronix!
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- Superior quality — accredited calibration at ISO/IEC 17025 certified facilities.

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