



# Standard Practice for Calibration and Functionality Checks Used in Forensic Psychophysiological Detection of Deception (Polygraph) Examinations<sup>1</sup>

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## 1. Scope

1.1 This practice provides guidelines for calibration and instrumentation (both analog and computerized systems) actively used in the psychophysiological detection of deception (*verification of truth*). As a minimum, such instrumentation shall simultaneously record an individual's respiratory, exosomatic electrodermal, and cardiovascular activity.

1.2 Analog polygraphs shall be calibrated by the psychophysiological detection of deception (PDD) examiner, manufacturer, or factory-authorized individual.

1.3 Computerized instrumentation shall be calibrated by the manufacturer or factory-authorized individual.

1.4 The PDD examiner or factory-authorized individual shall perform functionality checks to ensure instrumentation is operating properly.

1.5 This practice does not prohibit additional components which may be offered as supplemental measurements of physiological change. Additional recording components (such as movement sensors) may be used in addition to, but not replace, the required minimum components and these additional components shall meet the manufacturer's specifications for calibration.

## 2. Referenced Documents

### 2.1 ASTM Standards:<sup>2</sup>

[E1954 Practice for Conduct of Research in Psychophysiological Detection of Deception \(Polygraph\)](#)

[E2000 Guide for Minimum Basic Education and Training of Individuals Involved in the Detection of Deception \(PDD\)](#)

[E2035 Terminology Relating to Forensic Psychophysiology](#)

<sup>1</sup> This practice is under the jurisdiction of ASTM Committee E52 on Forensic Psychophysiology and is the direct responsibility of Subcommittee E52.02 on Instrumentation.

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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

### 2.2 Other Document:

[Manufacturer Manual\(s\) for System\(s\) in Use](#)

## 3. Terminology

3.1 *Definitions of Terms*—See Terminology [E2035](#).

3.2 Terminology may vary according to different manufacturers.

## 4. Significance and Use

4.1 This practice sets forth the minimum requirements for calibration and functionality checks when conducting PDD examinations and related activities. For additional information see Practice [E1954](#) and Guide [E2000](#).

## 5. Minimum Requirements for Calibration and Functionality Checks of Polygraph Instrumentation

5.1 A recorded chart shall be created demonstrating correct functioning of the instrument. This chart will be maintained for a minimum period of one year.

5.1.1 This chart shall contain the following information, as applicable: name of person performing calibration or functionality check, time and date, location, manufacturer, model, and instrument identification.

5.1.2 All notations, settings, and adjustments shall be clearly and permanently noted on the chart (either marked by hand or, in the case of computerized instrumentation, electronically recorded).

5.1.3 All calibration and functionality checks shall be conducted in accordance with the manufacturer's specifications.

## 6. Calibration Check (Analog Instruments)

6.1 Calibration or functionality checks shall be conducted in accordance with the manufacturer's specifications.

6.2 At any time a malfunction is identified, the instrument shall not be used to conduct a PDD examination until that malfunction has been corrected as demonstrated by an additional calibration or functionality check.

6.3 A record in the form of a calibration or functionality chart shall be kept identifying the time and date, instrument identification, and who conducted the calibration or functionality check.

6.3.1 This record shall be maintained for a minimum of one year.

## **7. Calibration or Functionality Check for Computer Instruments**

7.1 Functionality or calibration checks shall be conducted in accordance with the manufacturers' specifications.

7.2 At any time a malfunction is identified, the instrument shall not be used to conduct a PDD examination until that malfunction has been corrected as demonstrated by a calibration or functionality check.

7.3 A record in the form of a calibration or functionality chart in printed or digital format shall be kept identifying the date, instrument identification, and by whom the calibration or functionality check was conducted.

7.3.1 This record shall be maintained for a minimum of one year.

## **8. Keywords**

8.1 calibration; calibration chart; forensic psychophysiology and psychophysiological detection of deception (PDD); functionality chart; functionality check; instrument; polygraph

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