### **Incoming Calibration Certificate Instruction**

**1.0 Purpose and Scope**

This document provides instruction for verifying incoming calibration certificates.

**2.0 Responsibility**

Quality Assurance Department is responsible for verifying calibration certificates of LD equipment that has been returned after calibration service.

**3.0 Reference Document**

 D0001.0014 Quality Addendum for Intrinsic Safe Products

**4.0 Instruction**

QA Inspector will verify the certificates of calibration and/or conformance for monitoring and measuring devices contain the following information at a minimum:

* unique identification of the item certified (model/serial number, ID number, etc)
* evidence of traceability to national and/or international measurement standards
* method of calibration (process, procedure reference, etc.)
* a statement of compliance with any relevant specification
* results of calibration
* reference equipment is in calibration
* uncertainty of measurement, where necessary
* environmental conditions, where relevant
* date of calibration
* signature of the person under whose authority the certificate was issued
* name and address of issuing organization
* date certificate was issued
* a unique identification of the calibration certificate (certificate number)
* correct date completed and calibration due date on calibration stickers match what is listed on the certification

**5.0 Accepted Certificates**

Initial the top right corner of the certificate to validate it has the correct information. Scan certificate and place in appropriate file found in

 R\Provo\Quality/Internal Equipment Calibration Certificates

* Locate vendor, open folder
* Select model number
* Select serial number or assigned LD number
* Move scanned copy into the folder
* If the folder has a SNxx.xls spreadsheet go to step 6.0. If there is not a spreadsheet, close the folder.

**6.0 Level Tracking Spreadsheet**

In the appropriate section below, open the spread sheet and follow the steps to enter test results. The information will be found on the calibration certificate.

**6.1 Preamplifiers**

* Enter the date certified.
* Find the 1000 Hz measured level and enter the dBµV value into the Vrms to dBuV.xlsx converter found in the Preamp folder. .
* Enter the Vrms value in the Output @ 1kHz column in the spreadsheet.
* Enter Flat Noise Floor in dBµV.
* Enter Relative Level at 251.2Hz in the 251.19Hz column.
* Make sure the charts update with the new values.
* When needed, enter additional lines to the spreadsheet by right clicking in the last blank line and click insert. Extend dates on the chart by double clicking on the latest date on the bottom of the chart and extend the year out.

**6.2 Calibrators**

* Enter the date certified.
* For CAL150 and CAL200 enter the Frequency test point 1kHz and verify the reading is within +-0.5 Hz. Get this number from the test results [Hz] in the Frequency results for the 114 nominal level. For CAL250 enter the Frequency test point for 251.2Hz and verify the reading is within +-0.5 Hz.
* Check the test results to determine if the frequency was adjusted. Mark the column with a Y or N.
* For the CAL150 and CAL200 enter the measured Amplitude level for 114 and 94 dB. For the CAL250 only enter the Amplitude level for 114 dB.
* Check the test results to determine if the Amplitude was adjusted. Mark the column with a Y or N.
* Make sure the charts update with the new values.
* When needed, enter additional lines to the spreadsheet by right clicking in the last blank line and click insert. Extend dates on the chart by double clicking on the latest date on the bottom of the chart and extend the year out.

**6.3 Microphones**

* Enter the date certified.
* Enter the Sensitivity @250Hz found on the certificate in the test results
* Make sure the charts update with the new values.
* When needed, enter additional lines to the spreadsheet by right clicking in the last blank line and click insert. Extend dates on the chart by double clicking on the latest date on the bottom of the chart and extend the year out.

**6.4 2200B**

* Enter the date certified.
* Find the Ch1 Certificate of Gain Stage Electrical Conformance.
* Go to the Gain dB results and enter the error value into the spreadsheet for the corresponding number. Gain Ch1 – 0.0, 10.0, 20.0, 30.0 and 40.0.
* Find the Ch2 Certificate of Gain Stage Electrical Conformance.
* Go to the Gain dB results and enter the error value into the spreadsheet for the corresponding number. Gain Ch2 – 0.0, 10.0, 20.0, 30.0 and 40.0.
* Make sure the charts update with the new values.
* When needed, enter additional lines to the spreadsheet by right clicking in the last blank line and click insert. Extend dates on the chart by double clicking on the latest date on the bottom of the chart and extend the year out.

**6.5 800B**

* Enter the date certified.
* Find the Certificate of A-Weight Electrical Conformance.
* Go the Frequency results and find the Error value for 19.95Hz. Enter that number into the spreadsheet. Do the same for 251.19Hz and 7943.3Hz.
* Find the Certificate of C-Weight Electrical Conformance.
* Go the Frequency results and find the Error value for 19.95Hz. Enter the number into the spreadsheet. Do the same for 251.19Hz and 7943.3Hz.
* Make sure the charts update with the new values.
* When needed, enter additional lines to the spreadsheet by right clicking in the last blank line and click insert. Extend dates on the chart by double clicking on the latest date on the bottom of the chart and extend the year out.

**7.0 Rejected Certificates**

If the unit is returned with a certificate that does not contain all the required information discuss with QA manager, or designated representative, to determine course of action. Hold equipment until the issue is resolved.

**8.0 Records**

The completed Certification Certificate is retained per the Quality records matrix, D0001.1126-1

**6.0 Distribution**

This instruction is available in the online Document Control area.

**7.0 REVISION HISTORY**

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| --- | --- | --- | --- | --- |
| **DCO #** | **REV** | DATE | **INITIALS** | **CHANGES MADE** |
| 1864B | A | 1/11/19 | AC | Initial document release. |
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