SMPTE RECOMMENDED PRACTICE

Cinema Sound System Maintenance Calibration

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Forward

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Introduction

This introduction is informative and does not form an integral part of this Engineering Document.

SMPTE RP 2096-1:2017 Cinema Sound System Baseline Setup and Calibration expands on SMPTE ST 202:2010 and RP 200:2012 by providing a set of current 'best practices' methodology for calibrating a cinema sound system, emphasizing contemporary fast Fourier transform (FFT) technology that is capable of transfer function analysis. It codifies a single set of procedures culled from current practices by experienced technicians to rigorously troubleshoot, calibrate and create detailed documentation for a dubbing theater or cinema. This provides a baseline for that theater that can be used for future "Maintenance Calibrations" and troubleshooting.

This Recommended Practice proffers a simpler procedure for maintenance calibrations that depends on:

1. The "Baseline Calibration" having been performed per [RP 2096-1], and its data/report being available to the technician performing the maintenance calibration.
2. At least the most recent previous "Maintenance Calibration" report and data being available to the technician performing this maintenance calibration, as it might point to issues that require attention if not immediate action.
3. No substantial changes having been made to the sound system or to the theater that would affect its acoustics.

1 Scope

This document details a set of recommended practices for the maintenance calibration and documentation of sound systems in dubbing stages (mixing rooms), screening rooms, and commercial cinemas to determine, and hopefully verify, the consistency of reproduction of motion picture sound in these spaces over time — in other words to provide a means to maintain correct calibration of a given space in the future.

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2 Conformance Notations

Normative text is text that describes elements of the design that are indispensable or contain the conformance language keywords: “shall”, “should”, or “may”. Informative text is text that is potentially helpful to the user, but not indispensable, and can be removed, changed, or added editorially without affecting this Engineering Document’s requirements, specifications, procedures, or interoperability with other SMPTE Engineering Documents. Informative text does not contain conformance keywords.

All text in this document is, by default, normative, except: the Introduction, any section explicitly labeled as “Informative”, or individual paragraphs that start with “Note”.

The keywords “shall” and “shall not” indicate requirements strictly to be followed in order to conform to the document and from which no deviation is permitted.

The keywords, “should” and “should not” indicate that, among several possibilities, one is recommended as particularly suitable, without mentioning or excluding others; or that a certain course of action is preferred but not necessarily required; or that (in the negative form) a certain possibility or course of action is deprecated but not prohibited.

The keywords “might”, “may” and “need not” indicate courses of action permissible within the limits of the document.

The keyword “reserved” indicates a provision that is not defined at this time, shall not be used, and might be defined in the future. The keyword “forbidden” indicates “reserved” and in addition indicates that the provision will never be defined.

A conformant implementation according to this document is one that complies with all mandatory provisions (“shall”) and, if implemented, all recommended provisions (“should”) as described. A conformant implementation need not implement optional provisions (“might” or “may”) and need not implement them as described.

Unless otherwise specified, the order of precedence of the types of normative information in this document shall be as follows: Normative prose shall be the authoritative definition. Tables shall be next, followed by formal languages, then figures, and then any other language forms.

3 Normative References

The following standards contain provisions which, through reference in this text, constitute provisions of this engineering document. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this engineering document are encouraged to investigate the possibility of applying the most recent edition of the standards indicated below.

1. SMPTE RP 2096-1:2017 “Cinema Sound System Baseline Setup and Calibration”.

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