

## SMPTE Timecode Library – Developer Guide

This comprehensive Developer Guide provides in-depth documentation for the SMPTE Timecode Library (v4.1.0), designed to help media professionals and developers integrate advanced timecode functionalities into their workflows.

### What You'll Learn:

- **Frame Count to SMPTE Timecode Conversion:** Understand how the library accurately converts raw frame counts into SMPTE timecode across supported frame rates (23.98, 24, 25, 29.97, 59.94).
- **Timecode Parsing with Regex Patterns:** Learn how the library uses regex for timecode validation, supporting drop-frame and non-drop-frame formats.
- **Cross-Frame Rate Conversion:** Master the conversion of timecodes between different frame rates while maintaining precise synchronization.
- **BCD Encoding/Decoding:** Explore methods for converting SMPTE timecode to Binary-Coded Decimal (BCD) and vice versa for seamless hardware integration.

### Key Features:

- Modular, well-documented Python code with logging support.
- Error handling and validation for timecode formats.
- Optimized for broadcast, post-production, and automation workflows.

For a detailed walkthrough, code examples, and integration tips, contact us: [support@acrux.media](mailto:support@acrux.media)