Tape Recorder Equalization Standards

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Overview

- Tape does not have a flat frequency response.
- To optimize the quality the input signal is equalized to decrease with increasing frequency in a standard way.
- Playback is therefore equalized so that it complements the record equalization producing a “flat” response.
Standards Organizations

- **IEC**
  - The International Electrotechnical Commission
- **NAB**
  - The National Association of Broadcasters
- **AES**
  - The Audio Engineering Society
- **CCIR**
  - French for the International Radio Consultative Committee
- **DIN**
  - German for German Industrial Standard

History

- The US standards have been:
  - NAB for 3.75ips, 7.5ips and 15ips
  - AES for 30ips
- The European standards have been:
  - IEC=CCIR=DIN
- Since the US is now part of the IEC so these standards have been renamed
  - NAB = IEC2
  - AES = IEC2
Standards in use

- 3.75ips = IEC (NAB)
- 30ips = IEC2 (AES)
- 7.5ips =
  - IEC2 (NAB) for the USA
  - IEC = IEC1 = CCIR = DIN for Europe
- 15ips =
  - ½” 8-trk and 1” 16-trk always use IEC = IEC1
  - IEC2 (NAB) for the USA
  - IEC1 (IEC) for Europe
  - Nagra tape recorders use Nagra Master Equalization

To Summarize

- In the USA
  - IEC2 for all tape speeds except 3.75 (IEC)
- In Europe
  - IEC1 for 3.75ips – 15ips
  - IEC2 for 30ips
- For ½” 8-trk and 1” 16-trk
  - always use IEC = IEC1
And you thought you just “hit” record!