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SMPTE RECOMMENDED PRACTICE

RP 87-1999

Revision of RP 87-1995

Reference Carrier Frequencies, Pre-emphasis Characteristic and Audio and Control Signals for 3/4-in Type E Helical-Scan Television Tape Cassette Recording



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1 Scope

This practice specifies the reference frequencies for deviation of the frequency modulated carrier and associated video preemphasis characteristic for 3/4-in type E helical-scan video tape cassette recording of 525-line monochrome and NTSC color television signals at a tape speed of 95.3 mm/s (3.752 in/s). In addition, the characteristics of the audio and control signals are specified.

2 Normative references

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

EIA RS-170, Electrical Performance Standards — Monochrome Television Studio Facilities

EIA Industrial Electronics Tentative Standard No. 1, Color Television Studio Picture Line Amplifier Output Drawing

3 Video signal

3.1 Luminance carrier frequencies

3.1.1 Reference white level: $5.4 \text{ MHz} \pm 0.1 \text{ MHz}$

3.1.2 Reference sync level: $3.8 \text{ MHz} \pm 0.2 \text{ MHz}$

3.1.3 Reference white to sync level deviation: $1.6 \text{ MHz} \pm 0.1 \text{ MHz}$

3.2 Recording current characteristics

3.2.1 FM luminance carrier recording current shall be adjusted to produce maximum playback level. A high-pass filter having the characteristic shown in figure 1 shall be inserted into the FM signal path.

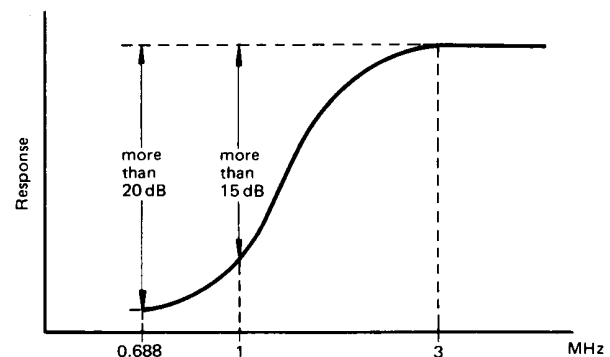


Figure 1 – FM high-pass filter

3.2.2 The down-converted chrominance signal of the AM chrominance carrier recording shall be $688.374 \text{ kHz} \pm 0.200 \text{ kHz}$. The recording current shall be that at which the playback signal level is 10 dB to 14 dB below the peak luminance level of color bars at 75% color saturation.

3.3 Luminance signal preemphasis characteristics

3.3.1 The preemphasis is shown in figure 3 and defined as the impedance response to the four-terminal network in figure 2.

3.3.2 Preemphasis is introduced to the video signal prior to the modulator.