SMPTE RECOMMENDED PRACTICE

RP 121-1997
Revision of RP 121-1993

Tape Dropout Specifications for 1-in Types B and C Video Tape Recorders/Reproducers

1 Scope

1.1 This practice defines the parameters for tape dropouts encountered in the reproduced FM signal of 1-in types B and C video magnetic recorders/reproducers.

1.2 This practice is intended as an aid in the evaluation of dropout characteristics of magnetic tape, not as a specification for recorder/reproducer setup.

2 Basic parameters

Basic parameters of the recorder/reproducer are defined in the following documents:

Type B recorder/reproducer

Basic parameters:	ANSI/SMPTE 15M
Carrier frequencies and preemphasis:	SMPTE RP 84
Audio frequency response and operating level:	ANSI/SMPTE 17M
Record dimensions:	ANSI/SMPTE 16M
Tracking-control record:	SMPTE RP 83

Type C recorder/reproducer

Basic parameters:	ANSI/SMPTE 18M
Audio frequency response and operating level:	ANSI/SMPTE 20M
Record dimensions:	ANSI/SMPTE 19M
Video record parameters:	SMPTE RP 86
Tracking-control record:	SMPTE RP 85

3 Definition

For the purpose of this practice, a dropout is a momentary random reduction of the recovered frequency modulated rf playback signal that is sufficient to cause a substantial impairment in the video output signal of a 1-in type B or type C tape recorder/reproducer.

4 Specifications

The signal level reduction to be classified as a dropout must be at least 5 μs in duration and have an rf level reduction of 16 dB or more.

5 Measurement conditions

When dropout measurements are conducted, the pole tip protrusion and tape tension of the video recorder/reproducer shall be as follows:

Pole tip protrusion:	Type B	30 μm ± 5 μm
	Type C	60 μm ± 10 μm
Tape tension:	Tape tension for the recorder/reproducer shall be in accordance with the manufacturer's published specifications.	

Approved December 5, 1997

Annex A (informative)
Bibliography

ANSI/SMPTE 15M-1992, Television Analog Recording — 1-in Type B Helical Scan — Basic System Parameters

ANSI/SMPTE 16M-1992, Television Analog Recording — 1-in Type B Helical Scan — Records

ANSI/SMPTE 17M-1992, Television Analog Recording — 1-in Type B Helical Scan — Frequency Response and Operating Level

ANSI/SMPTE 18M-1996, Television Analog Recording — 1-in Type C — Basic System and Transport Geometry Parameters

ANSI/SMPTE 19M-1996, Television Analog Recording — 1-in Type C — Records

ANSI/SMPTE 20M-1996, Television Analog Recording — 1-in Type C Recorders and Reproducers — Longitudinal Audio Characteristics

SMPTE RP 83-1996, Specifications of Tracking Control Record for 1-in Type B Helical-Scan Television Analog Recording

SMPTE RP 84-1996, Reference Carrier Frequencies and Preemphasis Characteristics for 1-in Type B Helical-Scan Television Analog Recording

SMPTE RP 85-1991 (R1995), Tracking-Control Record for 1-in Type C Helical-Scan Television Tape Recording

SMPTE RP 86-1991 (R1995), Video Record Parameters for 1-in Type C Helical-Scan Television Tape Recording