

ATR MAGNETICS

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MDS-36 Technical Data

MDS-36 is the latest addition to the ATR Magnetics line of audio recording products. MDS-36 is the long-playing version of our ATR Master Tape that engineers and musicians have come to love. We named MDS-36 in commemoration of company founder and industry leader Michael D. Spitz. Coated on the highest quality 1.0 mil polyester film, MDS-36 provides excellent performance and reel-to-reel consistency. Our new formulation offers high output and low noise with improved recording economy, and is bias compatible with ATR Master Tape requiring minimal adjustment for optimal performance.



Magnetic Properties

Coercivity (H_c)	330 Oe
Retentivity (B_{rs})	1400 Gs

Physical Properties

Standard Widths	
1/4"	0.246 in.
Nominal Thickness	
Base Film	950 u-in.
Oxide Coating	500 u-in.
Back Coating	30 u-in.
Total	1,480 u-in.

Performance Properties

Sensitivity @ 1 kHz	+1.2 dB
Sensitivity @ 10 kHz	+1.0 dB
THD @ IEC Reference Level (1 kHz)	0.10 %
Output Level @ 3% THD	+12 dB
Modulation Noise Ratio	-68 dB
Print-Through	-54 dB

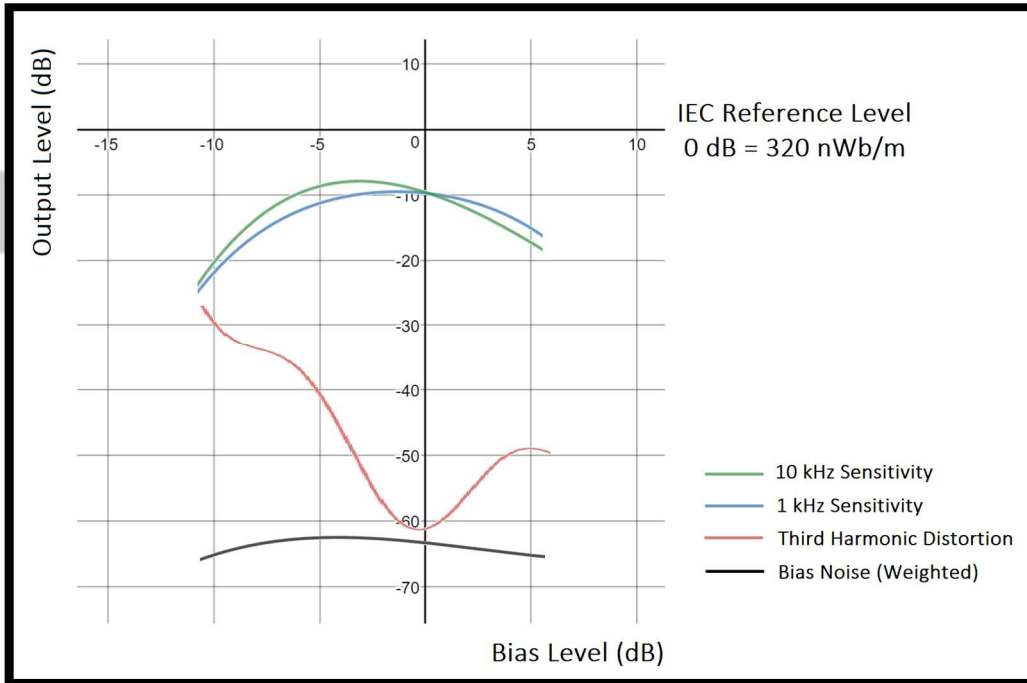
Measuring Conditions

Tape Speed	15 IPS
Equalization Standard	IEC 35 μ s
Reference Level	320 nWb/m
Record Head: Gap Length	0.5 mils
Track Width	75 mils
Reproduce Head: Gap Length	0.12 mils
Track Width	75 mils

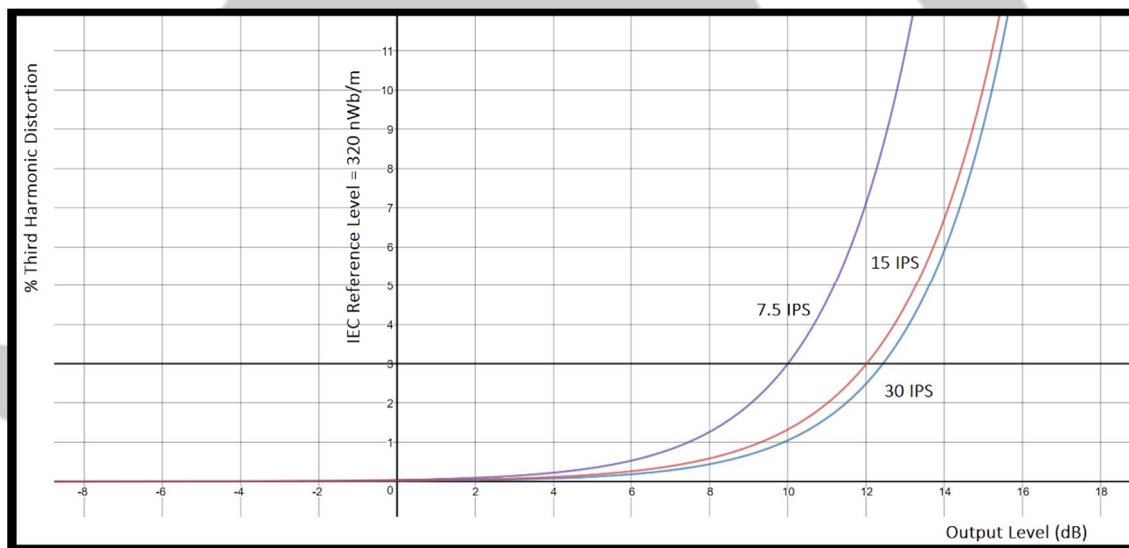
Recommended Bias Setting – ΔE_{10}

Tape Speed	0.25 mil	0.3 mil	0.5 mil	1.0 mil	Gap Length
30 IPS	1.5	1.2	1.0	0.5	Overbias (dB)
15 IPS	3.0	2.5	2.0	1.0	
7.5 IPS	5.0	4.5	4.0	2.0	

Effect of Bias on Recording Parameters



Distortion vs. Output



Ordering Info

Item	Configuration	Packaging	Carton Quantity	Part Number
1/4" x 1,800'	7" Plastic Reel	Set-Up Box	5	MDS409077
1/4" x 3,600'	10.5" NAB Reel	Tape Care Box	10	MDS40907
1/4" x 3,600' Pancake	10.5" NAB Hub	Pocket Box	10	MDS40907P

Test Notes and Definitions

Recommended Bias Setting ΔE_{10}

Determined by adjusting the bias current for maximum sensitivity at 10 kHz; then increasing the bias until the sensitivity changes by the amount = 2.0 dB. The adjustment is made with a constant input voltage at approximately 10 dB below reference level. The recommended bias setting corresponds to low third harmonic distortion and high output at 1 kHz.

Record Sensitivity

A measure of the output level compared to a standard reference tape when the recording is made at a constant voltage approximately 10 dB below reference level and at the recommended bias setting.

Third Harmonic Distortion (THD) at Reference Level

The ratio between the level of the third order harmonic and the fundamental frequency (1 kHz) expressed in percent when recorded at reference level and at the recommended bias setting.

Output Level at 3% Third Harmonic Distortion

A measure of the output level capabilities of a tape at 1 kHz when recorded at 3% third harmonic distortion and the recommended bias setting.

Relative Weighted Noise with Bias

Defined as the ratio in dB between the 1 kHz output at reference level or at 3% third harmonic distortion and the ASA weighted (NAB standard) noise level. The noise measurement is made with the recommended bias and without input signal.

Print-Through

The level of the accidental printing effect due to a signal recorded on an adjacent layer of tape. The printing signal is recorded at 1 kHz at reference level and the tape is held at 70°F (21 °C) for 24 hours.