

MAGNETIC REFERENCE LABORATORY, INC.

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Publication SMS1
2008-04-01

Short Multi-Speed Calibration Tapes

These "minimalist" multi-speed Calibration Tapes contain a White Noise signal for azimuth adjustment, 500 Hz for preliminary level setting, 10 kHz for high-frequency equalization setting, and 1 kHz for final level setting. They are shown in the table below for ¼-, ½-, 1-, and 2-inch widths; and for 2, 3, and 4 tape speeds.

All are recorded with a 250 nWb/m reference fluxivity ("±3 dB"). All tones at the higher speeds (15 in/s and 30 in/s) are recorded at 0 dB. At the lower speeds (3.75 in/s and 7.5 in/s) the White Noise, 500 Hz, and 10 kHz signals are recorded at -10 dB to avoid saturating the tape at high frequencies; the 1 kHz signal is recorded at 0 dB in all cases.

White Noise for Azimuth Adjustment

Because of its large high-frequency power, White Noise is especially useful for adjusting azimuth of fulltrack reproducers, or for adjusting multitrack reproducers for minimum intertrack time displacement ("phase error").

If you set azimuth with a single high-frequency tone, it is possible to misadjust to a "false peak", at the azimuth where there is one full cycle of time delay between the waves. Using

random noise for azimuth setting prevents this, because the wave is not periodic.

White Noise can be used with most of the usual azimuth setting techniques: On a mono channel, adjust for maximum level. On a multichannel system, sum either the edge channels or all of the channels, and adjust for maximum level; or take the difference between the edge channels (channels summed with one channel polarity reversed), and adjust for *minimum* level.

You can also set azimuth quite accurately with any of these methods by listening, because the character of the sound changes in a very obvious way. The "brightest" sound is the correct adjustment. A Lissajous figure on an oscilloscope also works very well.

White Noise does *not* work with a phase meter, or with the dual-beam oscilloscope method. Both of these methods require having a periodic wave.

Tape Width	Nr. of Speeds	Speeds & Equalizations	MRL Catalog Nr.	Signals (once at each speed)		Total Duration	List Price
				White Noise: Time	500 Hz, 10 kHz, 1 kHz: Time each		
¼ in	2	3.75 NAB, 7.5 NAB	299-278-482-117	22 s	44 s	5.5 min.	130 \$
		7.5 NAB, 15 NAB	299-276-482-113				
		15 NAB, 30 AES	299-277-482-110				
	3	3.75 NAB, 7.5 NAB, 15 NAB	299-258-482-106	9 s	18 s	3.5 min.	105 \$
		7.5 NAB, 15 NAB, 30 AES	299-257-482-109				
	4	3.75 NAB, 7.5 NAB, 15 NAB, 30 AES	299-256-482-102	7 s	14 s	4 mi n.	105 \$
½ in	2	3.75 NAB, 7.5 NAB	399-278-482-116	22 s	44 s	5.5 min.	200 \$
		7.5 NAB, 15 NAB	399-276-482-112				
		15 NAB, 30 AES	399-277-482-119				
	3	3.75 NAB, 7.5 NAB, 15 NAB	399-258-482-121	18 s	36 s	7 mi n.	250 \$
		7.5 NAB, 15 NAB, 30 AES	399-257-482-124				
	4	3.75 NAB, 7.5 NAB, 15 NAB, 30 AES	399-256-482-127	16 s	32 s	8 mi n.	250 \$
1 in	2	7.5 NAB, 15 NAB	499-276-482-111	22 s	44 s	5.5 min.	375 \$
		15 NAB, 30 AES	499-277-482-118				
	3	7.5 NAB, 15 NAB, 30 AES	499-257-482-123	18 s	36 s	7 mi n.	475 \$
2 in	2	7.5 NAB, 15 NAB	599-276-482-136	46 s	92 s	11 min.	805 \$
		15 NAB, 30 AES	599-277-482-133				
	3	7.5 NAB, 15 NAB, 30 AES	599-257-482-148	38 s	76 s	14 min.	1020 \$

Prices are in US \$, and do not include shipping or applicable taxes.

Prices may be changed without notice.