

Interfering frequencies in the wow and flutter spectrum of the Studer A807 tape recorder

Initiator	Diameter (mm)	Tape speed			
		3¼ ips	7½ ips	15 ips	30 ips
Capstan motor	9,06	3.33	6.66	13.3	26.6
1 Hall effect element with offset		23.3	46.6	93.2	186.5
2 Hall effect elements in wrong position		23.3	46.6	93.2	186.5
1 of the power transistor faulty		23.3	46.6	93.2	186.5
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1 – fold Capstan bearing frequency		3.33	6.66	13.3	26.6
2 – fold Capstan bearing frequency		6.66	13.3	26.6	53.2
3 – fold Capstan bearing frequency		9.99	19.9	39.9	79.9
Pinch roller	26,0	1.2	2.3	4.0	8.0
Guide roller right hand side	18,0	1.7	3.4	6.7	13.4
Counter roller mechanically (bearing)	37.8	0.8	1.6	3.2	6.4
Guide roller, left	9.75	3.1	6.2	12.4	24.8
Tape tension sensor roller	16.0	1.9	3.8	7.5	15.0

Tacho frequency of the capstan motor (Hz)		300	600	1200	2400
Amount of teeth on the tacho head	30				
External Sync frequency	9.6 kHz				

Please note:

All the above listed frequencies are valid for nominal speed, only (no varispeed mode)

PS:

A worn out ball bearing may not only show the 1 – 3 fold bearing frequency in the wow and flutter spectrum. It even may be possible, to recognize lot's of higher harmonics.