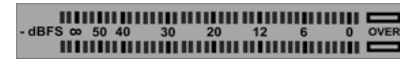
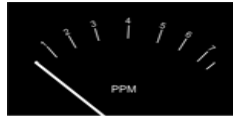


NORMAL/PEAK LIMITING Material	dBu			PPM			VU(ITU-R 645-2)			VU(IEC 268-17)			dBFS(EBU)			dBFS(SMPTE)													
	Normal	Peaks	Dynamic Range	Under	Normal	Peaks	Dynamic Range	Under	Normal	Peaks	Dynamic Range	Under	Normal	Peaks	Dynamic Range	Under	Normal	Peaks	Dynamic Range										
	0.0	8.0	0.0	12.0	-4.0	3.0	5.0	3.0	6.0	-14.0	-14.0	-6.0	-14.0	-2.0	-14.0	-18.0	-10.0	-18.0	-6.0	0.0	-18.0	-10.0	-18.0	-6.0	0.0	-24.0	-16.0	-24.0	-12.0
Dialogue	0.0	8.0	0.0	12.0	-4.0	3.0	5.0	3.0	6.0	-14.0	-14.0	-6.0	-14.0	-2.0	-14.0	-18.0	-10.0	-18.0	-6.0	0.0	-18.0	-10.0	-18.0	-6.0	0.0	-24.0	-16.0	-24.0	-12.0
Uncompressed Music	8.0	8.0	-4.0	12.0	-4.0	5.0	5.0	2.0	6.0	-14.0	-6.0	-6.0	-18.0	-2.0	-14.0	-10.0	-10.0	-22.0	-6.0	0.0	-10.0	-10.0	-22.0	-6.0	0.0	-16.0	-16.0	-28.0	-12.0
Compressed Music	4.0	4.0	-4.0	4.0	-4.0	4.0	4.0	2.0	4.0	-14.0	-10.0	-10.0	-18.0	-10.0	-14.0	-14.0	-14.0	-22.0	-14.0	0.0	-14.0	-14.0	-22.0	-14.0	0.0	-20.0	-20.0	-28.0	-20.0
Heavy M & E	8.0	12.0	8.0	12.0	-4.0	5.0	6.0	5.0	6.0	-14.0	-6.0	-2.0	-6.0	-2.0	-14.0	-10.0	-6.0	-10.0	-6.0	0.0	-10.0	-6.0	-10.0	-6.0	0.0	-16.0	-12.0	-16.0	-12.0
Background M & E	-8.0	0.0	-8.0	0.0	-4.0	1.0	3.0	1.0	3.0	-14.0	-22.0	-14.0	-22.0	-14.0	-14.0	-26.0	-18.0	-26.0	-18.0	0.0	-26.0	-18.0	-26.0	-18.0	0.0	-32.0	-24.0	-32.0	-24.0
Speech: News, Drama, Documentaries etc.	8.0	8.0	-8.0	12.0	-4.0	5.0	5.0	1.0	6.0	-14.0	-6.0	-6.0	-22.0	-2.0	-14.0	-10.0	-10.0	-26.0	-6.0	0.0	-10.0	-10.0	-26.0	-6.0	0.0	-16.0	-16.0	-32.0	-12.0
Music: Variety, Dance Music	6.0	6.0	-4.0	12.0	-4.0	4.5	4.5	2.0	6.0	-14.0	-8.0	-8.0	-18.0	-2.0	-14.0	-12.0	-12.0	-22.0	-6.0	0.0	-12.0	-12.0	-22.0	-6.0	0.0	-18.0	-18.0	-28.0	-12.0
Music: Brass Bands, Military Bands	4.0	4.0	-4.0	8.0	-4.0	4.0	4.0	2.0	5.0	-14.0	-10.0	-10.0	-18.0	-6.0	-14.0	-14.0	-14.0	-22.0	-10.0	0.0	-14.0	-14.0	-22.0	-10.0	0.0	-20.0	-20.0	-28.0	-16.0
Music: Orchestral Concerts	12.0	12.0	-8.0	12.0	-4.0	6.0	6.0	1.0	6.0	-14.0	-2.0	-2.0	-22.0	-2.0	-14.0	-6.0	-6.0	-26.0	-6.0	0.0	-6.0	-6.0	-26.0	-6.0	0.0	-12.0	-12.0	-32.0	-12.0
Music: Light Music	10.0	10.0	-4.0	12.0	-4.0	5.5	5.5	2.0	6.0	-14.0	-4.0	-4.0	-18.0	-2.0	-14.0	-8.0	-8.0	-22.0	-6.0	0.0	-8.0	-8.0	-22.0	-6.0	0.0	-14.0	-14.0	-28.0	-12.0
Music: Pop records, highly compressed recordings	4.0	4.0	-4.0	4.0	-4.0	4.0	4.0	2.0	4.0	-14.0	-10.0	-10.0	-18.0	-10.0	-14.0	-14.0	-14.0	-22.0	-14.0	0.0	-14.0	-14.0	-22.0	-14.0	0.0	-20.0	-20.0	-28.0	-20.0
Music: Live Pop, slightly compressed programmes	8.0	8.0	-4.0	12.0	-4.0	5.0	5.0	2.0	6.0	-14.0	-6.0	-6.0	-18.0	-2.0	-14.0	-10.0	-10.0	-22.0	-6.0	0.0	-10.0	-10.0	-22.0	-6.0	0.0	-16.0	-16.0	-28.0	-12.0
Commercials: highly compressed	4.0	4.0	-4.0	4.0	-4.0	4.0	4.0	2.0	4.0	-14.0	-10.0	-10.0	-18.0	-10.0	-14.0	-14.0	-14.0	-22.0	-14.0	0.0	-14.0	-14.0	-22.0	-14.0	0.0	-20.0	-20.0	-28.0	-20.0
Commercials: slightly compressed	8.0	8.0	-4.0	12.0	-4.0	5.0	5.0	2.0	6.0	-14.0	-6.0	-6.0	-18.0	-2.0	-14.0	-10.0	-10.0	-22.0	-6.0	0.0	-10.0	-10.0	-22.0	-6.0	0.0	-16.0	-16.0	-28.0	-12.0



KEY

Under

Owing to meter ballistics, the amount (in dB) by which a meter **under**-reads *true* peaks during programme monitoring.

ITU-R 654-2 suggests under-read values of 3dB for a PPM, 13 dB for a VU meter and a 3 dB operator error. This chart uses these values but with a 1 dB operator error