

dB-dBu-dBV COMPARISON TABLE

Multiplier (voltage ratio relative to specified reference)	dB	Voltage reference for		PPM UK scale	PPM EBU scale	VU UK scale
		dBu	dBV			
10	20	7.75V	10.0V			
4	12	3.08V	3.98V	7	12	
	8	1.95V	2.51V	6	8	4
	7	1.73V	2.24V			
2	6	1.55V	2.00V			2
	5	1.38V	1.78V			
	4	1.23V	1.59V	5	4	0
1.41	3	1.09V	1.41V			
	2	975mV	1.26V			
	1	869V	1.12V			
1	0	775mV	1.00V	4	0	-4
	-1	690mV	891mV			
	-2	615mV	794mV			
0.7	-3	548mV	708mV			-7
	-4	489mV	631mV	3	-4	-8
	-5	436mV	562mV			
0.5	-6	388mV	501mV			-10
	-8	308mV	398mV	2	-8	
0.25	-12	195mV	251mV	1	-12	
	-18	97.5mV	126mV			
	-24	48.9mV	63.1mV			
	-30	25.4mV	31.6mV			
0.01	-40	7.75mV	10.0mV			
	-50	2.45mV	3.16mV			
0.001	-60	774μV	1.00mV			
	-70	245μV	316μV			

$\text{dBu} = 20 \log \frac{V}{0.775}$ where voltage is irrespective of impedance

$\text{dBm} = 20 \log \frac{V}{0.775}$ where voltage is measured across 600 ohms

$\text{dBV} = 20 \log \frac{V}{1}$

Note

Wizened and greying broadcast engineers who remember valves the first time round will also be aware that the spacing between scale marks 1 and 2 on a PPM used to be 6dB. Proud possessors of ancient BBC MNA/3, ATM/1, TPM/3 and PPM/6's will still only accept this scaling. However, since the introduction of (modern?) transistorised PPM drive cards, the spacing between scale marks 1 and 2 is 4dB. See IEC 468 PT10.

Source: BBC Designs Department Handbook No. 3.186 (1976).