

Description of emission	Necessary bandwidth		Designation of emission
	Formula	Sample calculation	
Direct-printing telegraphy using a frequency shifted modulating sub-carrier single-sideband suppressed carrier.	$B_n=2M+2DK$ , $M=B+2$	$B=50$ , $D=35$ Hz (70 Hz shift), $K=1.2$ , Bandwidth: 134 Hz	134HJ2B
Telegraphy, single sideband reduced carrier.	$B_n=\text{central frequency}+M+DK$ , $M=B+2$	15 channels; highest central frequency is: 2805 Hz, $B=100$ , $D=42.5$ Hz (85 Hz shift), $K=0.7$ Bandwidth: $2.885 \text{ Hz}=2.885 \text{ kHz}$	2K89R7B

## 2. Telephony (Commercial Quality)

Telephony double-sideband.	$B_n=2M$	$M=3000$ , Bandwidth=6000 Hz=6 kHz	6K00A3E
Telephony, single-sideband, full carrier.	$B_n=2M$	$M=3000$ , Bandwidth: 3000 Hz=3 kHz	3K00H3E
Telephony, single-sideband suppressed carrier.	$B_n=M$ – lowest modulation frequency	$M=3000$ , lowest modulation frequency is 300 Hz, 2700 Hz Bandwidth: $2700 \text{ Hz}=2.7 \text{ kHz}$	2K70J3E
Telephony with separate frequency modulated signal to control the level of demodulated speech signal, single-sideband, reduced carrier.	$B_n=M$	Maximum control frequency is 2990 Hz, $M=2990$ , Bandwidth: 2990 Hz=2.99 kHz	2K99R3E
Telephony with privacy, single-sideband, suppressed carrier (two or more channels).	$B_n=N_c$ , $M$ – lowest modulation frequency in the lowest channel	$N_c=2$ , $M=3000$ lowest modulation frequency is 250 Hz, Bandwidth: 5750 Hz=5.75 kHz	5K75J8E
Telephony, independent sideband (two or more channels).	$B_n=\text{sum of } M \text{ for each sideband}$	2 channels, $M=3000$ , Bandwidth: 6000 Hz=6 kHz	6K00B8E

## 3. Sound Broadcasting

Sound broadcasting, double-sideband.	$B_n=2M$ , $M$ may vary between 4000 and 10000 depending on the quality desired	Speech and music, $M=4000$ , Bandwidth: 8000 Hz= 8 kHz	8K00A3E
Sound broadcasting, single-sideband reduced carrier (single channel).	$B_n=M$ , $M$ may vary between 4000 and 10000 depending on the quality desired	Speech and music, $M=4000$ , Bandwidth: 4000 Hz= 4 kHz	4K00R3E
Sound broadcasting, single-sideband, suppressed carrier.	$B_n=M$ – lowest modulation frequency	Speech and music, $M=4500$ , lowest modulation frequency=50 Hz, Bandwidth: 4450 Hz=4.45 kHz	4K45J3E

## 4. Television

Television, vision and sound.	Refer to CCIR documents for the bandwidths of the commonly used television systems	Number of lines=525; Nominal video bandwidth: 4.2 MHz, Sound carrier relative to video carrier=4.5 MHz  Total vision bandwidth: 5.75 MHz; FM aural bandwidth including guardbands: 250,000 Hz  Total bandwidth: 6 MHz	5M75C3F  250KF3E  6M25C3F
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## 5. Facsimile

Analogue facsimile by sub-carrier frequency modulation of a single-sideband emission with reduced carrier.	$B_n=C - N+2+DK$ , $K=1.1$ (typically)	$N=1100$ , corresponding to an index of cooperation of 352 and a cyler rotation speed of 60 rpm. Index of cooperation is the product of the drum diameter and number of lines per unit length $C=1900$ , $D=400$ Hz, Bandwidth=2.890 Hz=2.89 kHz	2K89R3C
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