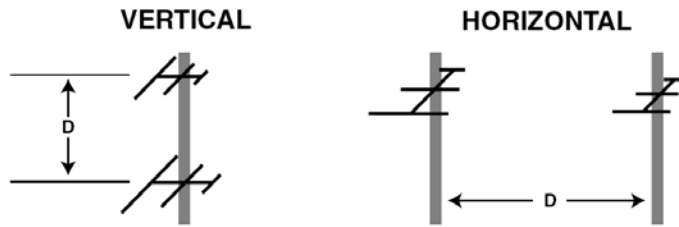


# Antenna Spacing

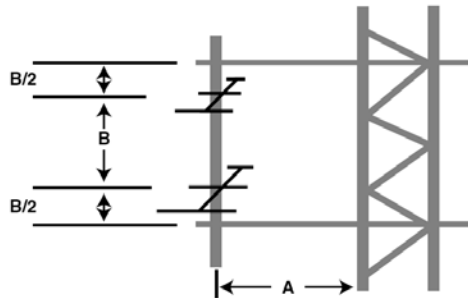
## Mounting Channelized Antennas on the Same Mast



**D** = Min.  $1/2 \lambda$  of lower channel  
Optimum is  $2/3 \lambda$  of lower channel

**D** =  $.12 \lambda$  min. of lower channel

## TOWER MOUNTING



NOTE: Refer to Antenna Spacing Chart for dimensions

# Antenna Spacing Chart

## Dimension Notes:

- A) The minimum horizontal spacing between the tower structure and the antenna crossbar.
- B) The recommended vertical spacing for a gain of 3 dB.

Channel No.	A	B $2/3 \lambda$	C $1 \lambda$	D $1/2 \lambda$
2	113	138	208	104
3	101	125	188	94
4	91	115	172	86
5	78	100	150	75
6	72	93	139	70
FM	72	80	120	60
7	40	44	67	33
8	39	43	65	32
9	37	42	62	31
10	36	40	61	30
11	35	39	59	29
12	34	38	57	29
13	34	37	55	28

Dimensions are in inches

B/2) The minimum vertical spacing between the antenna crossbar and adjacent mechanical structures.

C) The recommended horizontal spacing for a gain of 3 dB.

D) The minimum spacing between antennas of different channels and is the figure given for the antenna with the lowest frequency

## Formulae:

$$\text{One Wavelength in space} \dots \lambda \text{ (inches)} = \frac{11811}{\text{Freq. in MHz}}$$

$$\text{One Wavelength in 75 Ohm coax (solid)} \dots \lambda \text{ (inches)} = \frac{7783}{\text{Freq. in MHz}}$$

$$\text{One Wavelength in 75 Ohm coax (foam)} \dots \lambda \text{ (inches)} = \frac{9565}{\text{Freq. in MHz}}$$

$$\text{Antenna Nulling (finding H)} \dots d \text{ (}\lambda\text{)} = \frac{1}{2 \sin \phi}$$