HAM TIPS

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HAM-BAND CHARTS

Useful Data on Ham Bands from 1.8 to 148 Mc

One of the most popular items ever to appear in *RCA Ham Tips* was the amateur-band frequency graph printed in the September-October, 1949 issue. In response to many requests from hams, we are devoting this issue to printing an up-to-date revision of that graph, plus other data thrown in for good measure.

Figure 1 is a graph showing the harmonic relation between the six amateur bands from 10 to 160 meters. It is designed to replace the slide-rule-and-aspirin method of solving a number of common amateur problems. Some examples:

(a) You have a 7,080-Kc crystal you want to use—in conjunction with multiplier stages—for operation on the 20-meter band. Instead of reaching for pencil and paper, glance at Figure 1. Run your eye down the line marked 7.08 Mc until you reach the 20-meter bars. You find that everything is OK if you plan to work CW or TT. If you're a 'phone man, you'd better reach for another crystal.

Conversely, Figure 1 may be used to determine quickly the ranges to be covered by intermediate stages as you multiply to higher frequencies.

(b) You decide that most of your time will be spent working 'phone on the 20-meter band. Your present VFO covers the range of 3,500 to 4,000 Kc. Figure 1 shows you that (after multiplying frequency) only 1/20 of your VFO dial will be useful to you. A modification of the VFO bandspread system might be in order. Thus Figure 1 is also useful for determining the *relative* sizes of these six bands as you multiply frequency.

Figure 2, on the other hand, shows the *absolute* sizes of the ham bands from 10 to 80 meters. (The 160-meter band is not shown here because it is sub-divided on a geographical basis.) For example, this graph makes it clear that there is 12 times as much room on the 'phone portion of the 10-meter band as there is on the 'phone portion of the 20-meter band.

Because the 2-, 6-, and 11-meter bands are not easily related to the lower bands, they are treated separately. Figure 3 is a chart that shows useful sub-harmonics of the band limits of these three bands. For example, Figure 3 shows that a VFO covering the range of 8.000 Mc to 8.222 Mc would—after the frequency had been multiplied 18 times—spread the 2-meter band across the entire dial. Or, if you have a 6,770-Kc crystal, Figure 3 indicates that after quadrupling you would be within the limits of the 11-meter band.

Note that frequencies in Figure 3 have been rounded off (where necessary) on the "high side" at the lower band-edge limits, and on the "low side" at the upper band-edge limits.

All data shown in Figures 1, 2, and 3 represent the latest *FCC* rulings. Don't take it out on *Ham Tips* if you hear other services operating in "ham bands." Regulations in other parts of the world may allow broadcast, aeronautical or other services to use portions of these bands. Similarly, some foreign hams may be permitted to use ham bands slightly larger than ours. They may be "in the clear"—but *you* won't be if you try to zero-beat them.

Figure 1. Graph of amateur bands from 10 to 160 meters, showing sub-band allocations and the harmonic relation between bands.

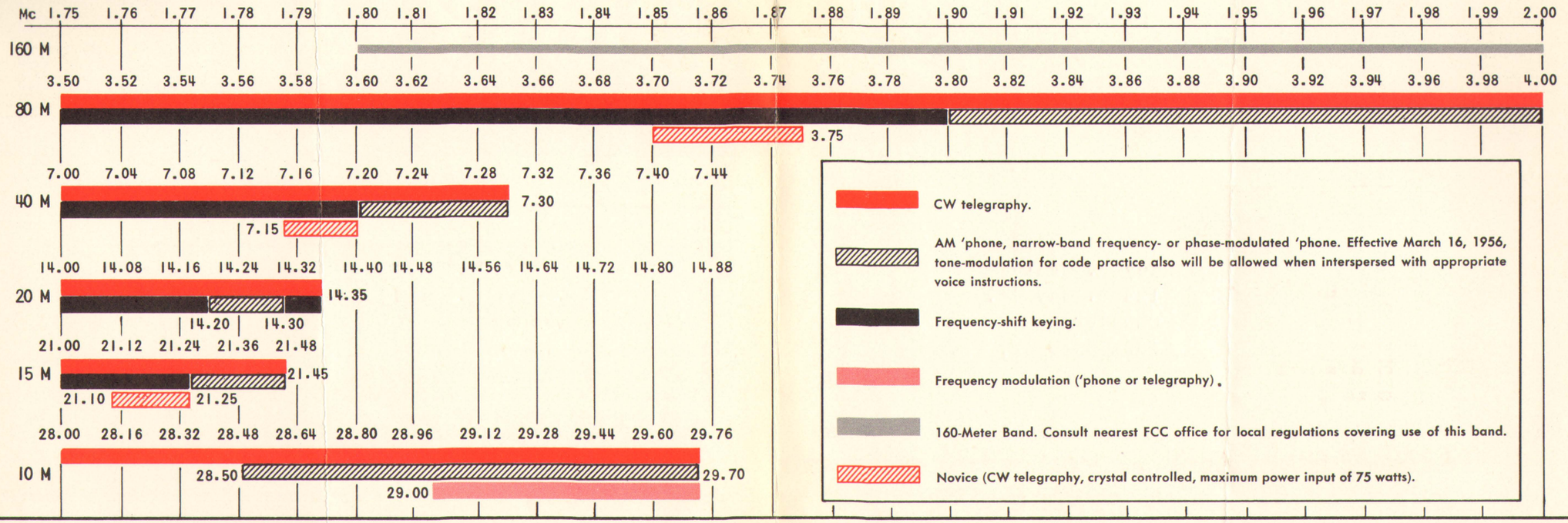

Figure 2. Graph of amateur bands from 10 to 80 meters, showing extent of each band in kilocycles. Key for sub-band allocations same as in Figure 1.

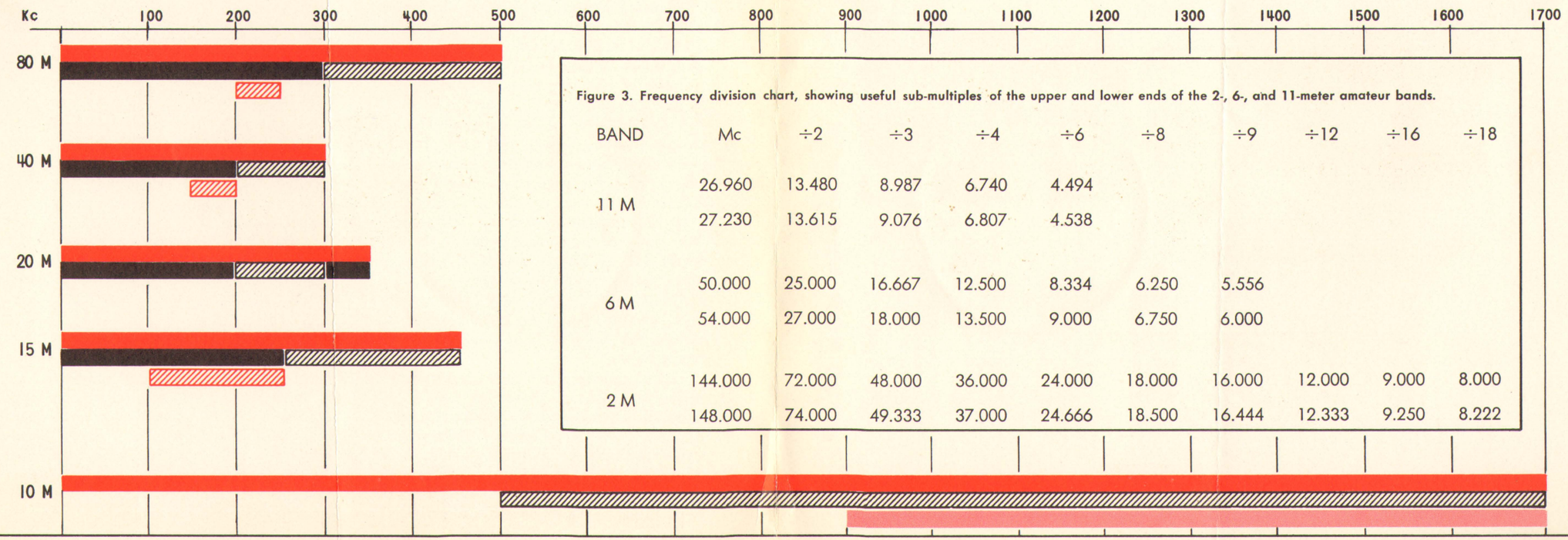

Figure 3. Frequency division chart, showing useful sub-multiples of the upper and lower ends of the 2-, 6-, and 11-meter amateur bands.

BAND	Mc	÷2	÷3	÷4	÷6	÷8	÷9	÷12	÷16	÷18
11 M	26.960	13.480	8.987	6.740	4.494					
	27.230	13.615	9.076	6.807	4.538					
6 M	50.000	25.000	16.667	12.500	8.334	6.250	5.556			
	54.000	27.000	18.000	13.500	9.000	6.750	6.000			
2 M	144.000	72.000	48.000	36.000	24.000	18.000	16.000	12.000	9.000	8.000
	148.000	74.000	49.333	37.000	24.666	18.500	16.444	12.333	9.250	8.222

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