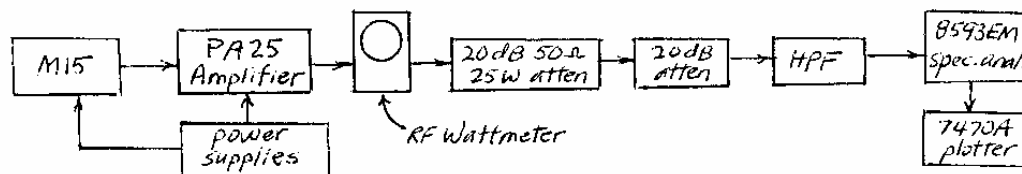


2. Mentor Radio Co. Model M15 (FCC ID BULM15), the transmitter which was used to drive the PA25 amplifier
3. Power supplies for the M15 and PA25 (made by Mentor Radio Co.)
4. Hewlett-Packard model 8593EM spectrum analyzer
5. Hewlett-Packard model 7470A plotter
6. Bird model 8306-200-N 25 watt rf coaxial 20 dB attenuator
7. Minicircuits model CAT-20 coaxial attenuator (20 dB)
8. Minicircuits model NHP-250 high pass filter
9. coaxial cables (RG-214) and connectors as needed (total length 12 ft.)

Set up sketch:



Procedure:

1. calibrate the spectrum analyzer (automatic at turn-on)
2. set spectrum analyzer span from 0 to 1500 Mhz
3. set spectrum analyzer reference (top line) to 30 dBm
4. operate the M15 driver and amplifier to obtain a spectrum display
5. plot the display
6. apply coaxial cable correction factors—see table below

The measured insertion loss of the high pass filtered are below, along with the attenuation of 12 ft. of RG-214 cable at each harmonic. Data for the latter was taken from figures published by Alpha Wire Corp. :

Minicircuits NHP-250 Data

attenuation for 12' of RG-214

Mhz	ins. loss (dB)	Mhz	dB
200	11.2	127.50	0.31
220	1.1	255.00	0.47
250	0.1	382.50	0.61
400	0.1	510.00	0.71
600	0.6	637.50	0.81
800	1.1	765.00	0.90
1000	0.9	892.50	1.00
		1020.00	1.09
		1147.50	1.13
		1275.00	1.17

Results:

The plot is attached (p. ^{6a}7a). It does *not* incorporate the corrections for the coaxial cable losses, nor for the high pass filter. These corrections would affect the measured antenna