(e) With transmitter energized, locate carrier spectrum line on spectrum analyzer and adjust Kay attenuator so this line is 4-5 cm. high on 'scope. Note height.

(f) Substitute General Radio signal generator for transmitter signal from Kay attenuator. Set for same frequency and adjust amplitude until spectrum line has same height as recorded for the transmitter signal. Using attenuator settings, calculate the carrier output of the transmitter and compare with output indicated by RF wattmeter.

(g) For each observable sideband, note the height of the spectral line, calibrate using the General Radio signal generator, calculate the sideband amplitude in the same way as for the carrier, and record this value.

Results:

(a) 25 mv. rms modulation at 1 Khz at the microphone input gave 4.4 v. rms at the transmitter modulated supply voltage (50% modulation)

(b) 16 dB over 25 mv. is 6.3 x 25 = 158 mv., microphone input level used for these tests

(c) carrier level indicated by spectrum analyzer was:

4.2 cm. height calibrated against Gen'l. Radio sig. gen. as 18,000 uv (.018 v.)

attenuation:

20 dB	(Bird 8320)
42 dB	(Kay 30-0)
62 dB	total

=factor of 1260 times

.018 v x 1260 = 22.7 volts (rms)

$$\frac{(22.7)^2}{50} = 10.3 \text{ watts}$$

Note: Bird Model 43 rf wattmeter indicated 11.4 watts with modulation removed. The difference between these two values is .44 dB, reasonable for these kinds of measurements.

(d) measured amplitudes of sidebands:

frequency	amplitude, volts	power, watts
123.1325	less than .1	less than .0002
123.135	.30	.0018
123.1375	.35	.00245
123.14	.75	.01125
123.1425	.65	.00845
123.145	1.8	.0648
123.1475	10.0	2.0
123.15	22.7	10.3