FIGURE 1

MODULATION FREQUENCY RESPONSE

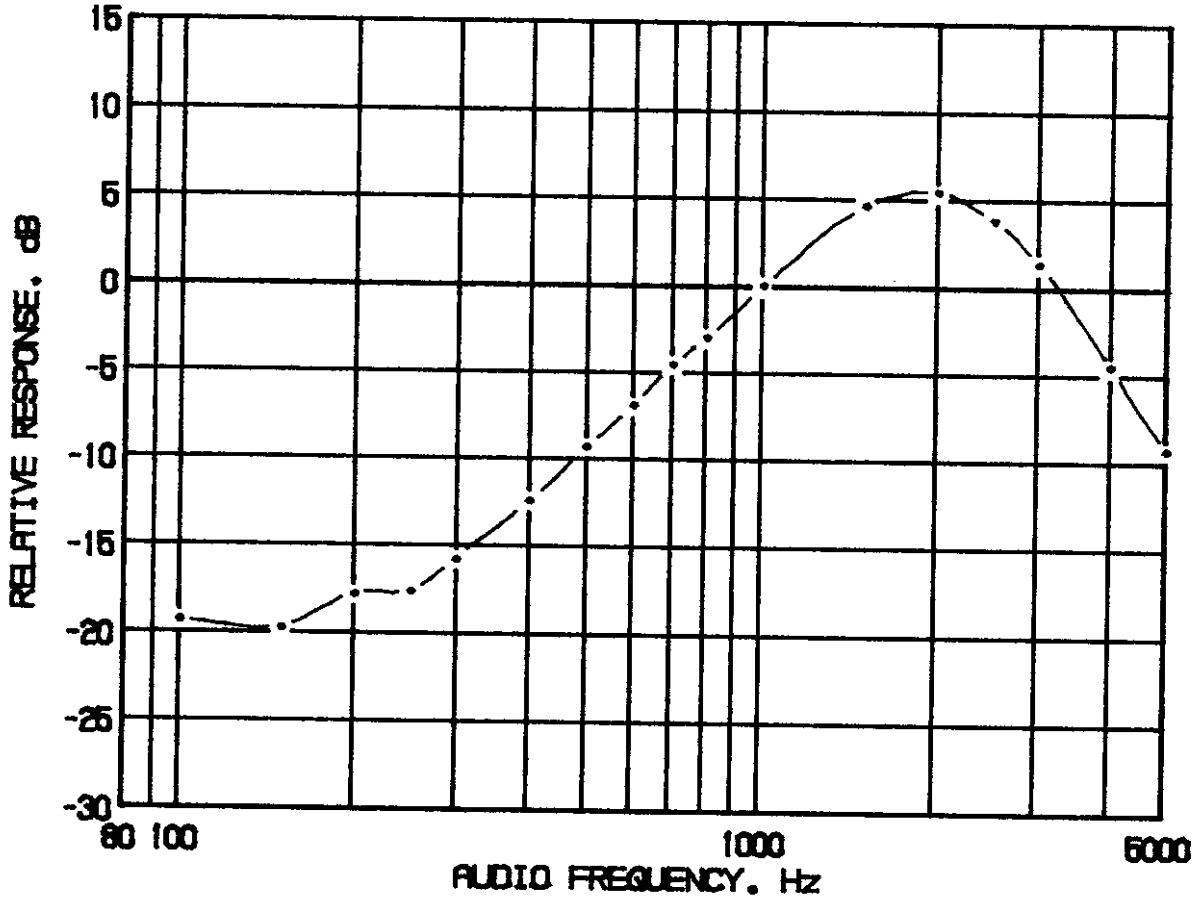


FIGURE 2

AUDIO LIMITER CHARACTERISTICS

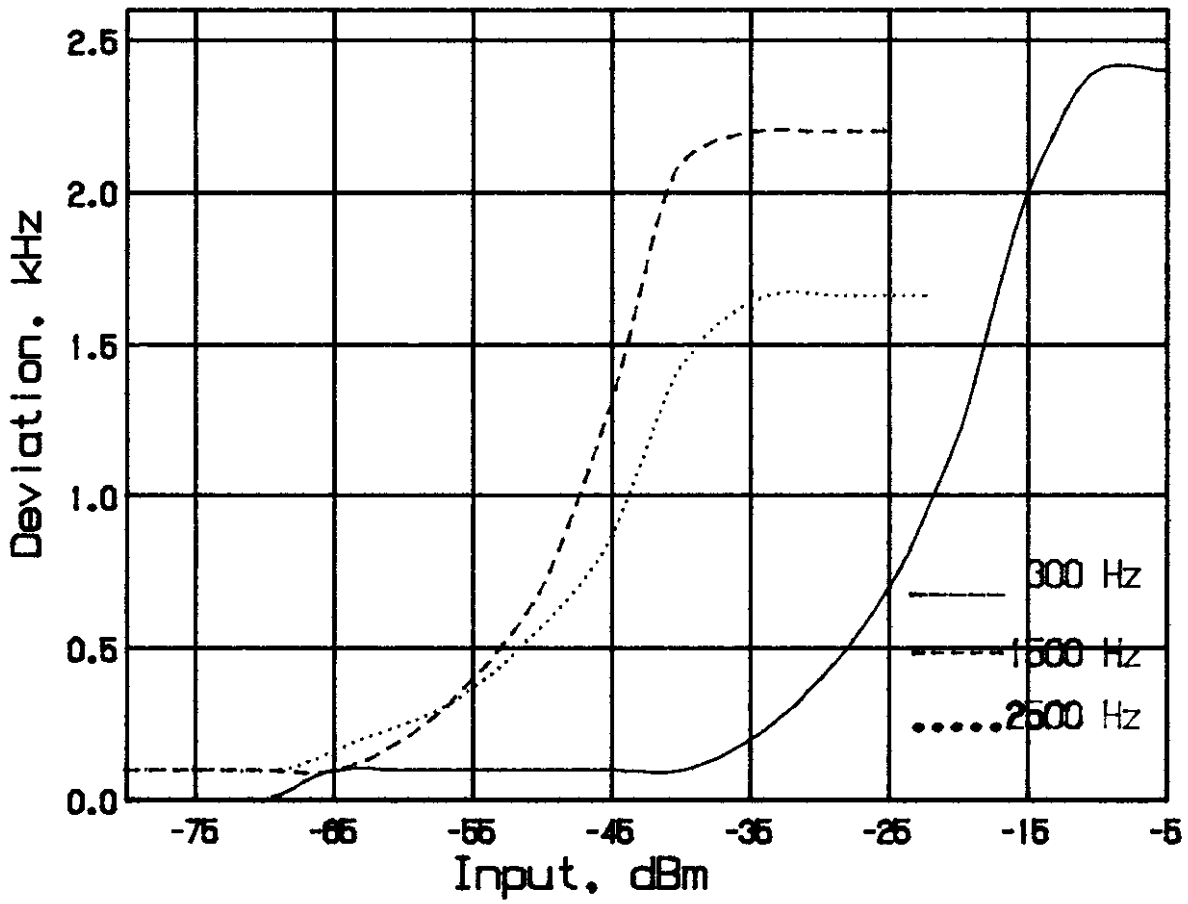


FIGURE 3

AUDIO LOW PASS FILTER RESPONSE

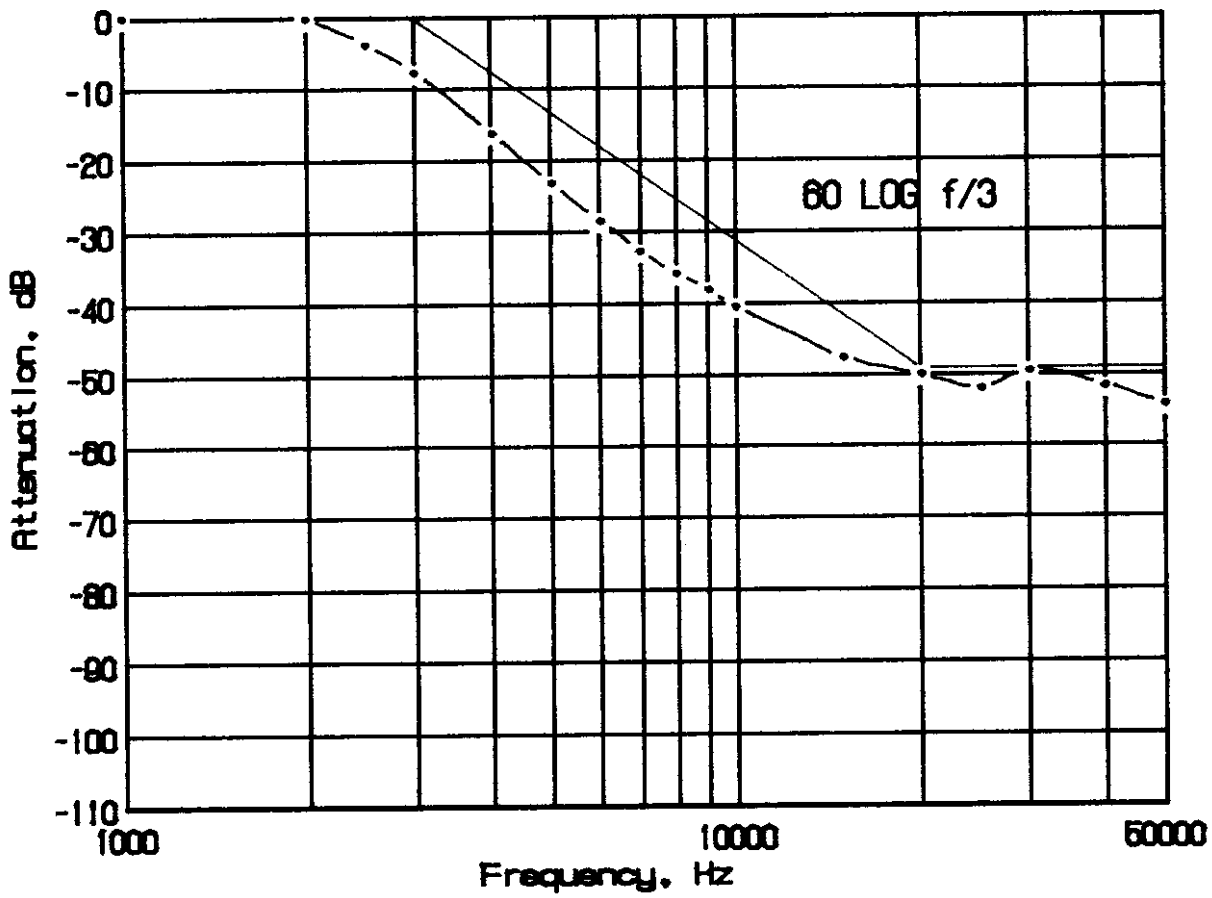
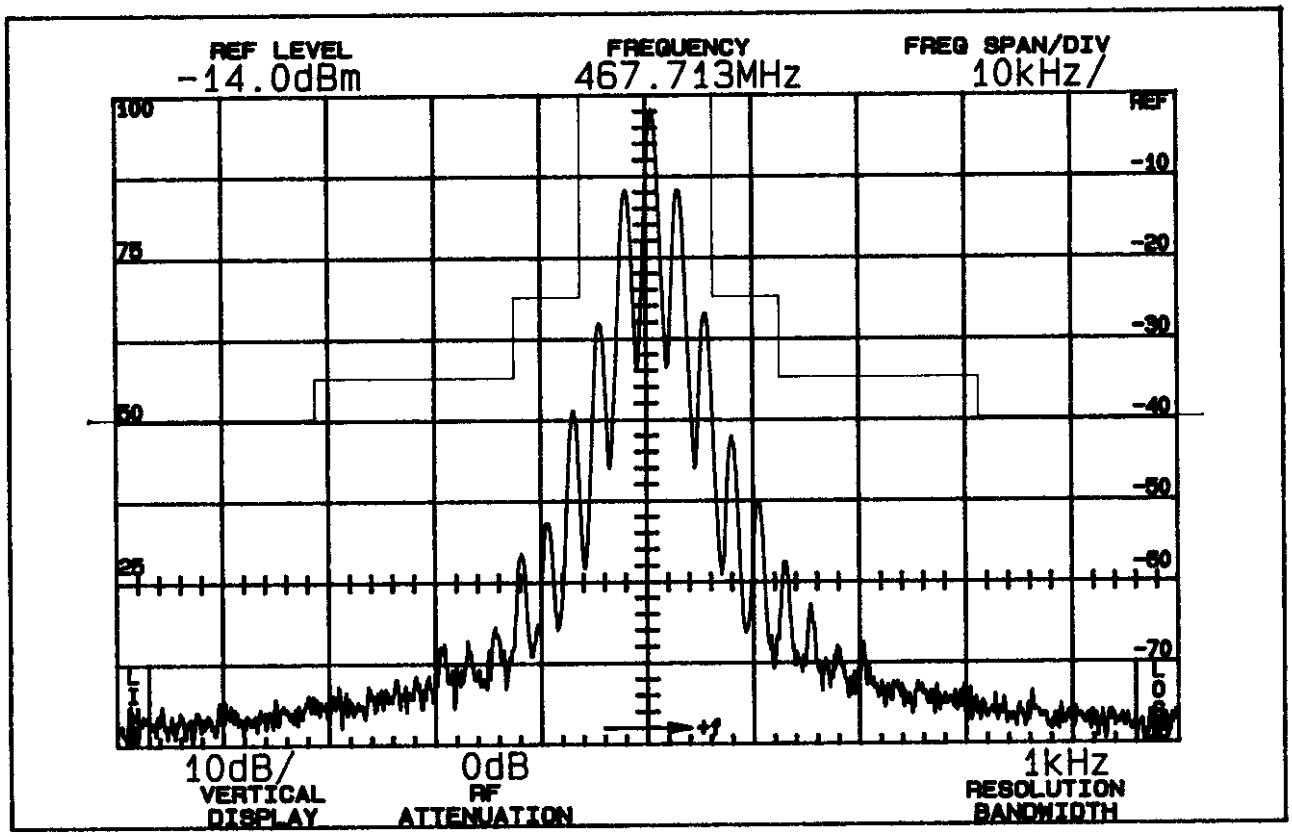


FIGURE 4

OCCUPIED BANDWIDTH



		ATTENUATION IN dB BELOW MEAN OUTPUT POWER Required
On any frequency more than 50% up to and including 100% of the authorized bandwidth, 12.5 kHz (6.25-12.5 kHz)		25
On any frequency more than 100%, up to and including 250% of the authorized bandwidth, (12.5-31.25 kHz)		35
On any frequency removed from the assigned frequency by more than 250% of the authorized bandwidth (over 31.25 kHz)	43+10LogP = (P = 0.41W)	39

D. MODULATION CHARACTERISTICS (Continued)

The plots are within FCC limits. The horizontal scale (frequency) is 10 kHz per division and the vertical scale (amplitude) is a logarithmic presentation equal to 10 dB per division.

E. SPURIOUS EMISSIONS AT THE ANTENNA TERMINALS
(Paragraph 2.991 of the Rules)

The RL-426 has a permanently attached antenna. There is no connector for an external antenna. Therefore, no antenna terminal conducted measurements were made.

F. DESCRIPTION OF RADIATED SPURIOUS MEASUREMENT FACILITIES

A description of the Hyak Laboratories' radiation test facility is a matter of record with the FCC. The facility was accepted for radiation measurements from 25 to 1000 MHz on October 1, 1976 and is currently listed as an accepted site.

G. FIELD STRENGTH MEASUREMENTS OF SPURIOUS RADIATION

Field intensity measurements of radiated spurious emissions from the Rexon RL-426 were made with a Tektronix 494P spectrum analyzer using Singer DM-105 for the measurements to 1 Ghz, and EMCO 3115 horn to 4.8 Ghz.

The transmitter was located in an open field 3 meters from the test antenna. Supply voltage was a power supply with a terminal voltage under load of 6.0 Vdc.

The transmitter and test antennae were arranged to maximize pickup. Both vertical and horizontal test antenna polarization were employed.

The measurement system was capable of detecting signals 100 dB or more below the reference level. Measurements were made from the lowest frequency generated with the unit(12 MHz), to 10 times operating frequency. Data after application of antenna factors and line loss corrections are shown in Table 3.

TABLE 3

TRANSMITTER CABINET RADIATED SPURIOUS

467.7125 MHz, 6.0 Vdc, 0.41 watts

Spurious Frequency MHz	Radiated Field uV/m @ 3M	dB Below Carrier Reference1
467.713	1497108.4	0.0
935.425	2065.4	57.2V
1403.138	501.2	65.5V*
1807.850	42.7	90.0H*
2338.563	128.8	81.3H*
2806.275	70.0	86.6H*
3273.988	85.1	84.9H*
3741.700	100.0	83.5H*
4209.413	136.5	80.8H*
4677.125	105.9	83.0H*
	Required: 43+10 Log (P) =	39

1. Worst-case polarization, H-Horizontal, V-Vertical.

* Reference data only, more than 20 dB below FCC limit.

All other spurious from 12 MHz to the tenth harmonic were 20 dB or more below FCC limit.

Power Computation:

$P = (F.I.x3)2/49.2$

$= 0.41$ W

H. FREQUENCY STABILITY
(Paragraph 2.995(a)(2)

Measurement of frequency stability versus temperature was made at temperatures from -20°C to +50°C. At each temperature, the unit was exposed to test chamber ambient a minimum of 60 minutes after indicated chamber temperature ambient had stabilized to within ±2° of the desired test temperature. Following the 1 hour soak at each temperature, the unit was turned on, keyed and frequency measured within 2 minutes. Test temperature was sequenced in the order shown in Table 4, starting with -20°C.

A Thermotron S1.2 temperature chamber was used. Temperature was monitored with a Keithley 871 digital thermometer. The transmitter output stage was terminated in a dummy load. Primary supply was 6.0 volts. Frequency was measured with a HP 5385A frequency counter connected to the transmitter through a power attenuator. Measurements were made at 467.7125 MHz. No transient keying effects were observed.

TABLE 4

FREQUENCY STABILITY AS A FUNCTION OF TEMPERATURE

467.7125 MHz, 6.0 Vdc, 0.41 W

Temperature, °C	Output Frequency, MHz	ppm
-19.8	467.711373	-2.4
-10.2	467.712680	0.4
0.4	467.713335	1.8
10.1	467.713546	2.2
20.5	467.713184	1.5
30.2	467.712823	0.7
39.5	467.712564	0.1
50.3	467.712747	0.5
Maximum frequency error	467.711373	
	467.711250	
	- .001127	

FCC Rule 95.627(b) specifies .00025% (2.5 ppm) or a maximum of ±0.001169 MHz, which corresponds to:

High Limit	467.713669 MHz
Low Limit	467.711331 MHz

I. FREQUENCY STABILITY AS A FUNCTION OF SUPPLY VOLTAGE
(Paragraph 2.995(d)(2) of the Rules)

Oscillator frequency as a function of power supply voltage was measured with a HP 5385A frequency counter as supply voltage provided by an HP 6264B variable dc power supply was varied from ±15% above the nominal 6.0 volt rating to below the battery end point. A Fluke 197 digital voltmeter was used to measure supply voltage at transmitter primary input terminals. Measurements were made at 20°C ambient.

TABLE 5

FREQUENCY STABILITY AS A FUNCTION OF SUPPLY VOLTAGE

467.7125 MHz, 6.0 Vdc Nominal; 0.41 W

Supply Voltage		Output Frequency, MHz	ppm
5.17	115%	467.713257	1.6
4.95	110%	467.713235	1.6
4.73	105%	467.713208	1.5
4.50	100%	467.713184	1.5
4.28	95%	467.713163	1.4
4.05	90%	467.713148	1.4
3.83	85%	467.713137	1.4
3.60	80%	467. 713130	1.3

Maximum frequency error: 467.713257
467.712500

+ .000757

FCC Rule 95.627(b) specifies .00025% (2.5 ppm) or a maximum of ±0.001169 MHz, corresponding to:

High Limit	467.713669 MHz
Low Limit	467.711331 MHz

*Battery end point.

APPENDIX 3

FUNCTION OF DEVICES

RL-426

Ref. No.	Type	Function
Q112	2SC271Y	Mic Mute
Q410	DTC14YUA	Rx/Tx VCO Switching
D410	1SS356	Rx/Tx VCO Switching
Q414	2SC5065(Y)	O.S.C.
Q415	2SC5065(Y)	Buffer
D403	DAN235U	Rx/Tx Circuit Switching
Q303	2SC4226(R24)	Tx Driver
Q403	2SC3356(R24)	Tx Power Driver Amp
Q301	MRF9745T1	Tx Power Final Amp
D404,D405	1SS314	Rx/Tx Switching
IC101	MC68HC05PD6	CPU
IC404	M64076AGP	PLL Frequency Synthesizer
IC110	NJM2904	Pre-emphasis & MIC Amp Limiter

APPENDIX 4

SCHEMATIC DIAGRAM

Two (2) Schematic Diagrams
Follow This Sheet