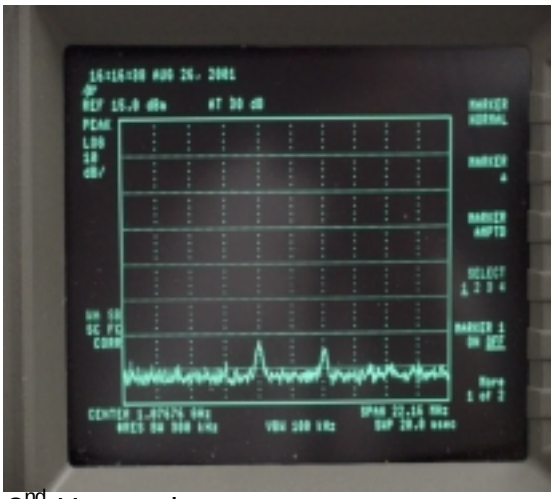
Adjacent channel spurious
Output @ 110 watts peak



2nd Harmonic area spectrum
Output @ 110 watts peak

The photos shown above are harmonic and spurious measured at the translator output for power levels of 110 watts peak. The only spectral components other than the spurs indicated in the left photo are harmonics of the visual and aural carriers. A photo showing the harmonics at the 2nd harmonic frequencies is shown on the right. The cable and directional coupler were calibrated for loss at each spurious and harmonic frequency identified. All other harmonic and spurious levels are >80 dB below rated output power. The harmonic and spurious levels are recorded in the table below.

Output Power = 110 watts peak sync

Spectral Frequency	Displayed Value	Corrected value*
546.25 MHz (Fv + 9)	-70 dB	-80 dB
532.75 MHz (Fv - 4.5)	-53 dB	-63 dB
1.074 GHz (Fv x 2)	-63 dB	-67 dB
1.084 GHz (Fa x 2)	-65 dB	-69 dB

*Corrected for cable loss and coupling factor from the test setup and notch filters at visual and aural carriers.

Cabinet Radiation

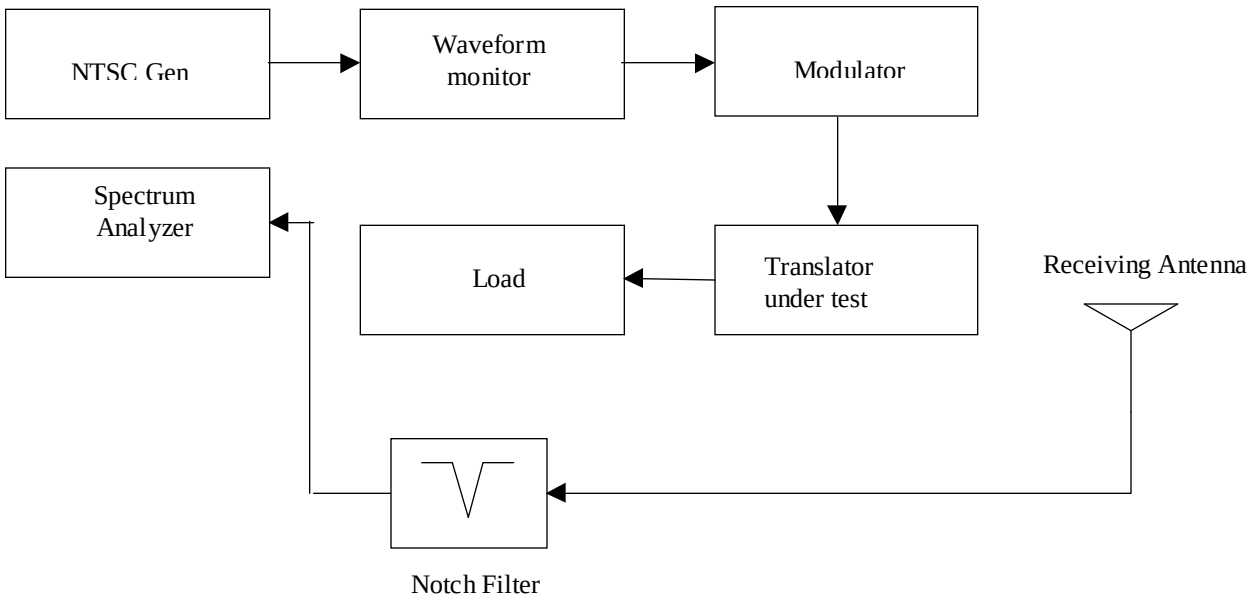
The translator and test equipment was configured as shown on the following page. The photo on the next page also shows the physical set-up of the test equipment and equipment under test. The translator was operated at 110% power with a 10 dB visual/aural ratio with the video input signal being a sync signal and 0 IRE “set-up” level. The free space path loss, cable loss, and antenna gain characteristics were obtained at the fundamental frequency at each of the harmonics of the visual carrier frequency in order to accurately assess the level of the signal radiated from the cabinet. The cabinet was measured in 4 different physical

rotation angles: 0, 90, 180, and 270 degrees (0 degrees being the front of the cabinet). All spectral components above -80 dB referenced to peak sync power radiated from the cabinet were recorded. Their values are tabulated in the following table.

Output Power = 110 watts peak sync

Spectral Frequency	Displayed Value	Corrected value*
546.25 MHz (Fv + 9)	-72 dBm	-75.6 dB
532.75 MHz (Fv - 4.5)	-68 dBm	-71.6 dB
1.074 GHz (Fv x 2)	-66 dBm	-63.4 dB
1.084 GHz (Fa x 2)	-67 dBm	-64.4 dB
1.07 GHz	-71 dBm	-68.4 dB
1.079 GHz	-67 dBm	-64.4 dB

*Corrected for cable loss, antenna gain, path loss and notch filters at visual and aural carriers and compared to Peak Sync power.



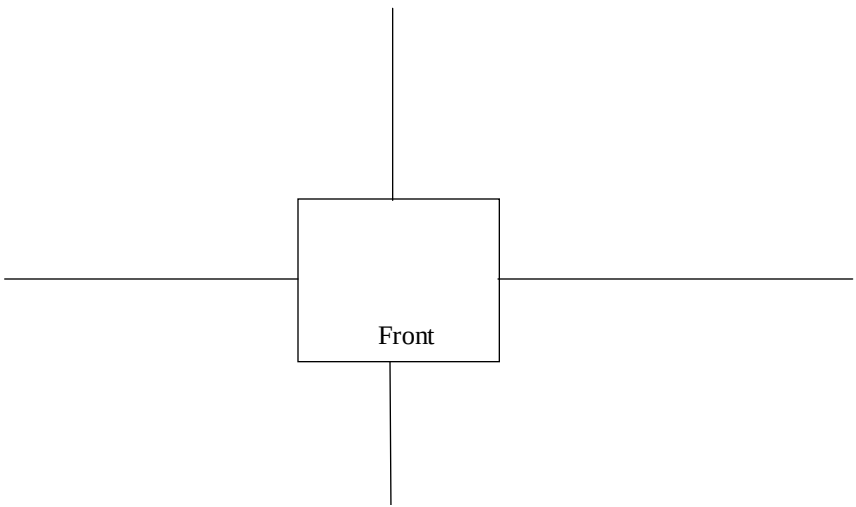


Figure showing Test setup for cabinet radiation. Cabinet was rotated to measure radiation from four angles. Foreground shows receiving antenna, notch filters, and spectrum analyzer.

Worst case measurement of cabinet radiation measured at 2nd harmonic of visual carrier.

Final Amplifier Voltage and Current Measurements

Final amplifier voltage and current measurements were made with the translator operating at 110% power and at 30% power. A video input signal of sync and 0 IRE “setup” level was used. Voltage measurements were made using a Fluke 77 meter and current measurements were made using the same meter with a FW Bell model C6-100A current probe.

Peak Output Power =110 Watts
Voltage = 27.2 volts
Current = 17.0 amps
Final amplifier power input = 462.4 watts

Peak Output Power =30 Watts
Voltage = 27.7 volts
Current = 4.5 amps
Final amplifier power input = 124.65 watts

Equipment List

The following test equipment was used in the various test equipment configurations or to create calibration of equipment at various frequencies. All equipment was known to be in good working order and the supplier of the equipment stipulated the equipment was within the calibration period.

EQUIPMENT MODEL	SERIAL NUMBER
Cadco M-369 TV modulator	K2579
Cadco 375 demodulator	C5013
HP 8585E Spectrum Analyzer	3523A01399
HP 8900C Peak Power Meter	2131A01139
HP 3525A Signal Generator	2846A01312
HP 200 CD Audio Generator	0960A86012
Tektronix TSG90 Video signal generator	B022622
Tektronix 1750 Waveform Monitor	B033351
ETS 3147 Log Periodic Antenna	9811-1332
Fluke 77 meter	AA00173889
Wavetek 8003 Scalar Analyzer	1813961
Bird 8329-300 Attenuator	506
Narda 3022 Directional coupler	70226