ELECTRICAL DESCRIPTION

The tubes used in the tuner are a 6BH6 r-f amplifier, a 6AG5 mixer, and a 6C4 local oscillator. The 300 ohm balanced antenna transmission line is coupled to the r-f amplifier grid through a matching antenna transformer to minimize reflections. The use of a tuned circuit ahead of the r-f amplifier stage aids materially in reducing cross-modulation effects, tends to reduce local oscillator radiation, and reduces the susceptibility of the tuner to double conversion effects which could occur if a substantial local oscillator voltage exists on the r-f amplifier grid.

The r-f amplifier output feeds the mixer input through a series-tuned resonant circuit which is stagger-tuned with the antenna circuit on the five low-frequency channels but is tuned to the same frequency as the antenna circuit on the hi-frequency channels. This requires wider bandwidth for the hi-frequency channels, a condition which normally occurs due to the increased tube loading.

Although separate switch positions are provided for each of the 12 channels, only 9 of the 12 are provided with separate adjustable coils, tuned with brass slugs. For the remaining 3 channels, incremental coils are used, each of which is in series with the corresponding coil for the next higher channel. The local oscillator operates at a frequency higher than the signal frequency; the intermediate frequencies produced are 21.25Mc for the sound carrier and 25.75 for the picture carrier.

The tuner has a gain of approximately 10 to 11 db per 1000 ohms of modulator plate i-f impedance on the low frequency channels. On the hi-frequency channels the gain is about 3 to 4 db lower. The vernier tuning range on the low-frequency channels is approximately 1 Mc and on the hi-frequency channels from 1.5 to 2.5 Mc. The power supply requirements for the tuner are 0.6 amperes at 6.3 volts for the heaters and 30 ma at 190 volts for plate and screen supply.

AVERAGE OPERATIONAL DATA

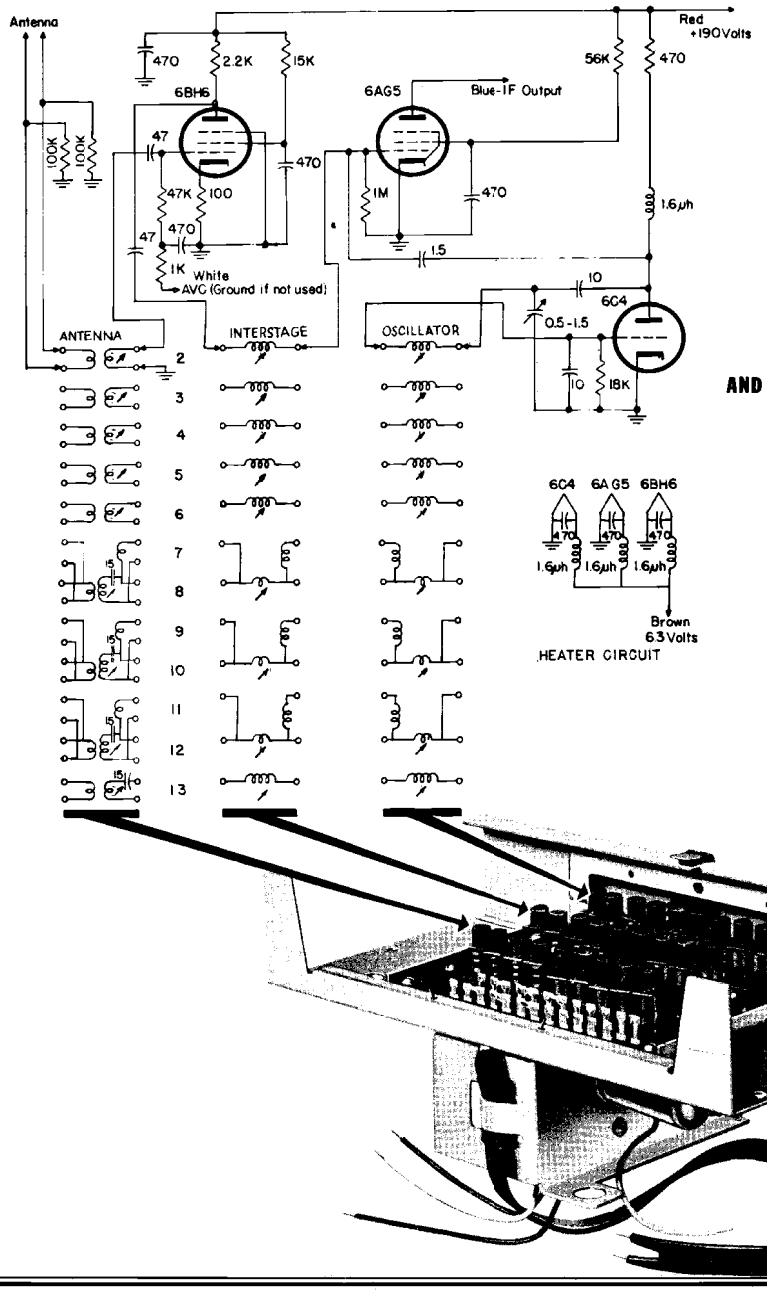
Image rejection ratio	45 db
Balanced i-f rejection ratio	40 db
Unbalanced i-f rejection ratio	49 db
Unbalanced r-f rejection ratio	14 db
Oscillator injection	2.9v
Balanced Oscillator radiation*	20mv
Unbalanced Oscillator radiation*	40mv

*At antenna terminals

THE TUNER IS PRE-ALIGNED AT THESE FREQUENCIES (Mc)

Channel #	Antenna Circuit	Interstage Circuit
2	60	54
3	66	60
4	72	66
5	82	76
6	88	82
7	177*	177*
8	183	183
9	189*	189*
10	195	195
11	201*	201*
12	207	207
13	213	213

*Channels utilizing incremental inductance (see circuit diagram)



BOTTOM VIEW AND CIRCUIT DIAGRAM