

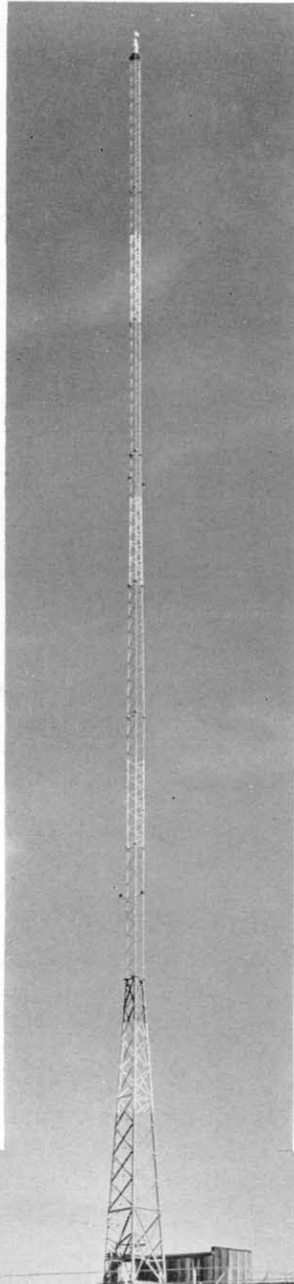
# A COMPACT SET-UP FOR KHAS

*Hastings, Nebraska Station Solves Problems by Going "RCA-all-the-way"*

**T**O operate a small station successfully, that is to show a profit, it becomes necessary to hold the investment and operation costs to a minimum. This does not mean buying the cheapest equipment on the market since a lower investment may be more than offset by higher maintenance cost.

To hold operating costs down it was decided to pick one location for both studios and transmitter. A down town location is most desirable for studios and business offices, so a study of the buildings was made. The one building available which seemed most desirable was not selected until

The KHAS antenna mounted on the roof of the Tribune Building.



tests had proved the site usable. To make the location tests on the Tribune Building, a forty foot wood mast, supporting the copper antenna wire, was erected and held in place with guy wires. Sixteen insulated copper radials were used for counterpoise and a fifty watt transmitter was used to supply an unmodulated signal. Permission was granted to test on the assigned frequency of 1200 kilocycles during daylight hours. The slight loss in efficiency due to mounting the tower on the building was more than offset by the lower operating cost.



Orville Rennie, Manager.



Walter Ely, Chief Engineer.





An array of RCA equipment that saves time, space and money for KHAS.

### Ground System

After the location was approved, we selected the equipment. It was necessary to use a self supporting tower since a guyed tower could not be anchored satisfactorily on this building. We bought a two hundred and ten foot Truscon. The radiator is series fed. The ground system consist of one hundred and twenty copper radials connected to the ground. They are supported by a wood framework seven feet above the roof. There is enough room between counterpoise and roof to allow for most necessary work.

When buying the transmitter and speech equipment we considered price, reliability, mainten-

ance cost, and appearance. After receiving bids from several manufacturers and considering all the above points we decided to go RCA all the way. In order to keep all equipment at top notch performance, test equipment is necessary. We have a beat-frequency oscillator, distortion meter attenuator panel, oscillograph, tube tester, volt-ohmmeter and a condenser tester.

### 250-K Does the Job

By using the 250-K transmitter we find it requires very little attention. One operator can watch it, as well as take care of all studio operations. The transmitter and associated equipment is mounted in the wall directly in front of the

operator at the speech console. The workshop and store room is directly back of the transmitter for the most convenience.

The control room is twenty feet square. At the operator's left are two studios; one is twelve by twenty-two feet, the other is twenty-two by thirty-three. At the right is the auditorium and stage. The open front stage and both studios are visible from the control room.

The old saying about listeners not appreciating high fidelity is not entirely true. We have received many compliments on the quality of our broadcasts because most listeners today have developed their critical faculties. Give them quality and they like it.



### THE ULTRA SENSITIVE D.C. METER

The RCA Ultra Sensitive D.C. Meter is a general purpose instrument of considerable utility in the radio laboratory. The meter makes use of a high gain, extremely stable, D.C. amplifier in which a negative feed-back circuit is employed. It is useful for measuring voltages ranging from .1 to 500 for currents between .02 to 10,000 microamp. and for resistances from .01 to 1000 megohms.

It is especially applicable for accurate observation of extremely high resistances and minute currents. Also the meter is valuable for measuring voltages across high impedance circuits such as those encountered in AVC rectifiers, etc., because the high internal resistance of the meter does not load down the circuit being measures.