

## INSTALLATION

Refer to INSTALLATION on type 1A6.

## APPLICATION

As a frequency converter in superheterodyne circuits, the 1C6 can supply the local oscillator frequency and at the same time mix it with the radio-input frequency to provide the desired intermediate frequency. For this service, design information is given under CHARACTERISTICS. It is important to note that the anode-grid voltage and the plate voltage must each be higher than the screen voltage.

For oscillator circuit information, refer to APPLICATION on type 1A6. Final adjustment of the 1C6 circuit should be such that the cathode current is approximately 6.5 milliamperes. The cathode current should never exceed 9 milliamperes under any condition of adjustment.

This tube, which is similar to the 1A6 although not directly interchangeable with it, requires twice the filament current of the latter, but offers the feature of an extended operating range at the higher frequencies. This feature is of particular value in the design of multi-range receivers, since the oscillator section of the 1C6 has sufficient mutual conductance to function at frequencies as high as 25 megacycles. In order to cover this same range of operation, the 1A6 requires the use of a triode connected in parallel with the oscillator section for frequencies above 10 megacycles.

The maximum conversion transconductance is obtained with an oscillator-grid current of slightly less than 0.2 milliamperes. The size, inductance, and coupling of the oscillator-grid and plate coils will determine this value. The coupling of these coils should be adjusted to make the oscillator-grid current the proper value (approximately 0.2 milliamperes) when a grid condenser of 250  $\mu\text{f}$  and a grid leak of 50000 ohms are used. For details of oscillator-coil assemblies, refer to type 2A7.

