

New R. C. A. Tubes

On the 1st of September the R. C. A. placed a number of new receiving tubes on the market. Some of them have been needed for a long time, all of them are interesting.

The UX-120

If you have operated a UV-199 tube set with a two stage amplifier and have had any volume at all available in the last stage you have noted that the last stage should either be a push-pull arrangement with two tubes and two transformers, or that it should contain two UV-199 tubes with their elements in parallel. One tube will not handle the power. The new UX-120 tube immediately eliminates this trouble. The UX-120 is an overgrown UV-199 designed for use in the last stage of an audio frequency amplifier. Its filament terminal voltage is the same as the UV-199 (3 volts) but the current drain is .125 ampere. Plate voltages up to 135 volts can be used. A "C" battery of 22.5 volts is required when the plate voltage is 135.

The UX-112

The corresponding companion tube for use with UV-201A tube sets is the UX-112. In the second stage of an audio amplifier when used after a neutrodyne set or a super-heterodyne the UX-112 should immediately replace the usual push-pull amplifier arrangement necessary when a



THE NEW UX-210. A HIGH POWER AMPLIFIER AND A 7.5 WATT OSCILLATOR

great deal of "pep" is secured from the receiver. The UX-112 tube filament draws a current of .5 ampere. Plate voltages between 90 and 157 should be used, with corresponding grid bias voltages varying between 6 and 10.5 volts. The UX-112 tube also can be used as a detector, requiring a grid condenser of 250 μ fd. and a grid leak between 3 and 5 megohms.

Do not get the idea that by merely replacing your existing UV-199 tube with a UX-120 louder signals will be received. Unless there is enough power in the last stage to cause distortion with the smaller tube the UX-120 will actually show a decrease in signal strength. If distortion is due to overloading, because the smaller



THE UX-199 — A UV-199 DRESSED UP IN THE NEW "STANDARD" BASE.

tube will not handle the energy available, the larger tube should not only eliminate this distortion but should also show a gain in signal strength. The same applies to the UX-112 tube.

The UX-210

A tube designed to handle an enormous amount of power in a power amplifier for receiving purposes is the UX-210. This tube requires a terminal voltage of 6 volts, hence it can be connected directly across the 6 volt battery without a rheostat in series. Plate voltages from 90 to 157 can be used for amplifying purposes, with corresponding C battery voltages varying between 4.5 and 10.5 volts. The UX-210 is an excellent transmitting tube. In fact it is substantially an X-L filament type of UV-202. With a plate voltage of 425 its normal output is 7.5 watts. When used with this plate voltage the filament voltage should be 7.5 volts with a filament current of 1.25 amperes. These 210 tubes should be the berries in the so-called 5-watt transmitting sets.

Special Tubes

The UX-874 is a special voltage regulator tube with a rated voltage of 90 and a starting voltage of 125. It will safely pass a maximum D. C. current of 50 milliamperes. The UV-876 is a special ballast tube with a current rating of 1.7 amperes and a voltage range of 40 to 60 volts. The base of the tube is fitted with a standard Mogul type screw plug. The UV-877 is a protective tube with a double contact bayonet locking type base similar to the

automobile headlight tube bases. A third filament connection which runs to the midpoint of the filament is connected to the shell of the base.

Rectifier Tubes

For use in B battery eliminators two special tubes are now available. The UX-213 is a full wave rectifier having a terminal voltage of 5, a filament current of 2 amperes, a maximum A. C. input voltage per plate of 220, or 440 across both plates and a maximum D. C. load current of 65 milliamperes. The UX-216B is a half wave rectifier requiring a filament voltage of 7.5 and a filament current of 1.25 amperes. The maximum A. C. input voltage is 550 and the maximum D. C. load current 65 milliamperes. Both of these tubes are huskily built and when used in B battery eliminators should have a life

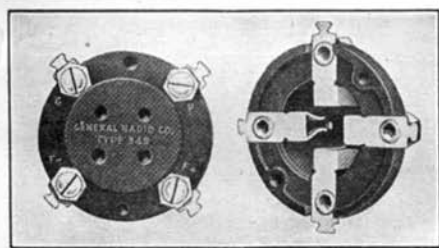


THE RADION SOCKET WHICH FITS BOTH OLD AND NEW STYLE BASES MADE BY AMERICAN HARD RUBBER CO.

vastly greater than that of the present B battery eliminator tubes.

UX Bases

Before you have gone this far you have noted new code letters on these tubes. The "UX" indicates a new type of base which is an effort (feeble as it is) on the part of the R. C. A. to standardize tube bases. We now have two new types to



THE GENERAL RADIO "PUSH" SOCKET FOR THE "UX" TYPE TUBES.

go along with the four existing "standards." The UX bases are made in two sizes. The smaller size is used with the UV-199 tube, and the new UX-120. The larger UX base is found on the UX-200 (identical with UV-200 except in the base), UX-201-A (UV-201-A), WX-12

(WD-11-12), the new UX-112, the new UX-210 and the three special tubes. In addition to tubes with the new bases the R. C. A. still sell the old style based tubes.

The UX base has terminal pins quite a bit longer than those on the older tubes. This is so that the tubes can be used in a



THE GENERAL RADIO ADAPTOR THAT FITS THE SMALL UX BASE IN A STANDARD NAVY SOCKET

new "push" type socket similar to the British and French sockets. The large UX base has, however, a small side pin which allows the tube to be used in the standard Navy type base. The small UX base will not fit the UV-199 type socket as it has no side pin to lock in the bayonet. It can be used with a General Radio adaptor in the large standard Navy socket.

In both small and large UX bases the terminal pin arrangement is identical and the filament pins are larger than the grid and plate pins. This is to prevent incorrect insertion of the tube in the push type sockets.

Strays

"Of the complaints of interference to broadcast reception in this district, those against amateurs are less than three-tenths of one percent. That is so low a percent that it can be due only to the cooperation of the amateur. We know that cooperation pays."—Supervisor of Radio E. A. Beane, in address at banquet of Third National A. R. R. L. Convention.

"As this issue goes to print NRRL is approaching the United States after six months of extremely noteworthy transmission on the short waves. Watch for Schnell's own story of the cruise in an early issue of QST."

Correction

In the Experimenters' Section Report in August QST, an error occurred in the paragraph on Oscillating Crystals. Speaking of crystals not oscillating the sentence should have read, "One then has to cut away one edge or another"