

Tubes & Shields

This is the suite of vacuum tubes used in the '390A. It is a good idea to pick up at least 2 complete suites of tubes while they are still reasonably priced and even better to have 4. Make a few copies of this page and take it with you to the next hamfest. Always try and purchase the industrial tubes. These are the underlined numbers.

R390A Vacuum Tube Suite		
Tube Type	Quantity	Price Each (1996)
6AK6	3	\$2 5
5654	2	\$2 5
12AU6/5814A	2	\$2 8
26Z5W	2	\$10 20
3TF7	1	\$20+
6BA6/5749W	6	\$2 5
6C4/6100	3	\$2 5
6DC6	1	\$5 10
OA2	1	\$5 10

Total Tube Count: 26

As of this writing, tubes are not as difficult to find as some of the handwingers might say. On the other hand, the number of available tubes is finite so consider building a stock with the goal having at least 4 complete sets on hand. Also, always try and purchase JAN tubes. These are found in plain, white boxes, are labeled JAN and also show the date of mfg on the box. In the case of the 6BA6, 12AU7 and 6C4, try and purchase the 5749, 5814A and 6100 respectively which are premium tubes with JAN/Industrial specifications.

**** NEVER, EVER INSTALL CHINESE OR RUSSIAN TUBES IN AN R390A !**
(Unless there are no more US tubes left on the planet)

About IERC Tube Shields:

The R390A uses 5 different sizes of heat dissipating, black, IERC tube shields. Installing the correct type and part number shield can dramatically decrease the operating temperature and in turn, increase the life of the vacuum tubes. Collins addressed this back in the early 50's in service bulletin #303 which graphically compared the beneficial performance of various types of tube shields with not using shields at all.

The proper tube shields can easily identified. They are anodized black (or deep purple), have an open top with a series of tabs folded over a thin, octagonal metal tube inserted longways inside the shield. They are also plainly labeled "IERC." There is a unique model number stamped on the outside of the shield denoting which size it is designed to fit. Refer to this number when obtaining the shields.

Below is an inventory with individual quantities of the 5 different part number IERC tube shields used in the R390A:

IERC Tube Shields for R-390A		
Part Number	Quantity	Description
6025-B	1	Tall 9 Pin, used for the ballast tube
6020-B	9	Medium 9 pin, used on 5814A's and 26Z5W's
5015-B	2	Short 7 pin, used on the 5654's
5020-B	13	Medium 7 pin, used on 6BA6's, 6C4, 6AK5, etc.
5025-B	1	Tall 7 pin, used on the OA2

Black tube shields labeled "WPM" may also be found. While I personally don't feel these are quite as effective as the IERC design, they are far and away better than the shiny types described below.

Radios which still have shiny tube shields should have them replaced with the above IERC shields as soon as possible. Even if they have been painted black on the outside, these shields have no provision to grip the tube bottle and sink the heat away from it. Also, the bright inside surfaces of the shield actually reflect the heat back into tube and on to the dark internal plate structure which could cause the tube to over dissipate and shorten its service life.