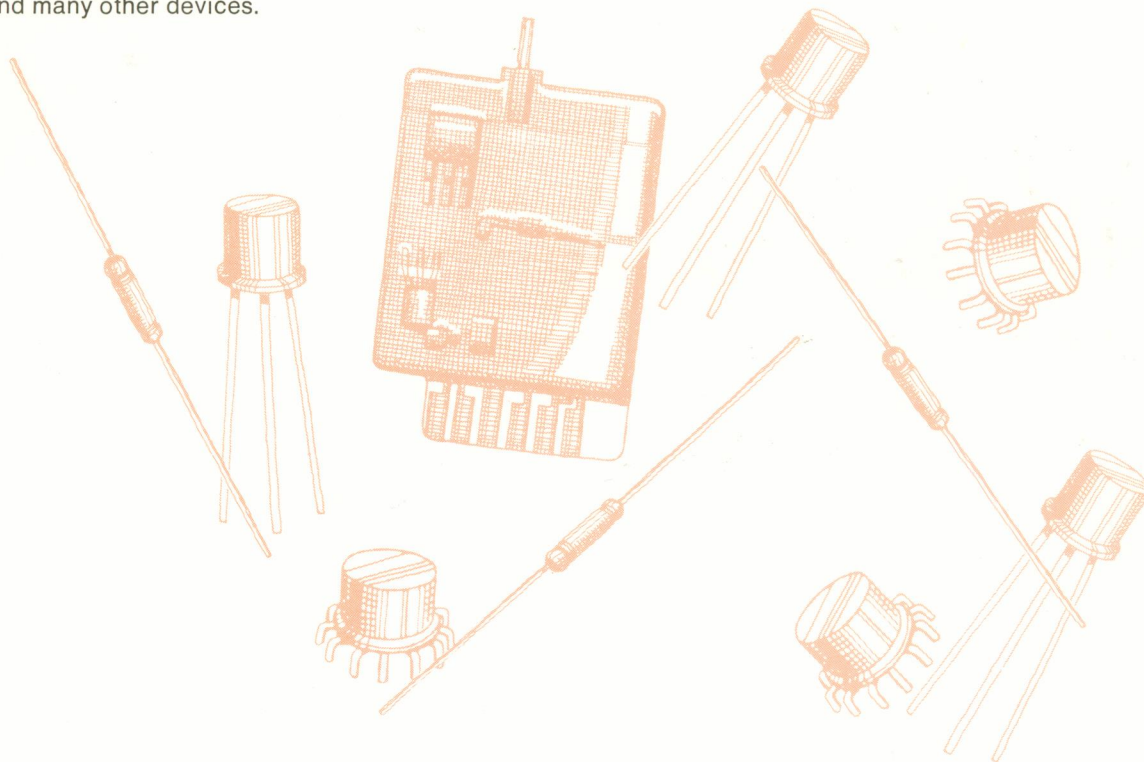


RCA

What is Solid State?

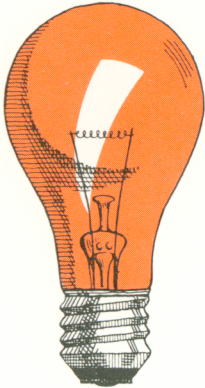
Solid State is a broad name for a family of electrical devices now being used in many areas that formerly required tubes. Unlike tubes, however, Solid State means solid matter—there is no need to separate the various parts by a vacuum or gas. Solid State devices include transistors, integrated circuits, ceramic circuits and many other devices.



Retail Salesman's Development Program

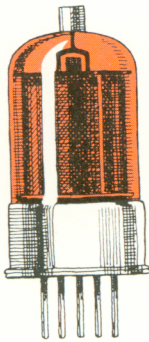
Solid State for Long, De

Solid State Reliability



Not like a light bulb . . .

A light bulb has a definite life span. There are filament wires inside that are hot enough to glow and give light. Each time the bulb is turned on, its life span is shortened. The bulb feeds on itself, in a sense, and will eventually burn out.



Not like a radio or TV tube . . .

Radio and TV tubes are similar to a light bulb. There are also wires inside that are hot enough to glow and will eventually burn out. A tube, much like the bulb, has a limited life.

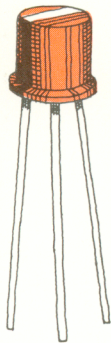
Solid State is different . . .

Solid State devices, unlike tubes, are made of solid materials which generate little heat and have an almost indefinite life. RCA uses many cool operating Solid State devices for greater reliability.

pendable Performance

Solid State Applications

Here are just a few of the many examples of Solid State devices:



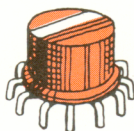
Transistors . . .

These devices have revolutionized the electronics industry. They can be used in practically every application that formerly required tubes. Their construction is very precise. The Solid State material is contained inside a small metal or plastic container such as the one illustrated on the top left. Three or more leads are connected to the different areas and extended to the outside of the container. The container is only slightly larger than the eraser on the end of a pencil.



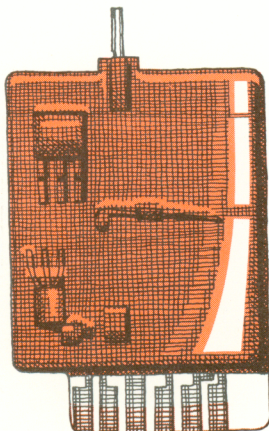
Diodes . . .

These are very much like transistors in that they can often be used in place of tubes, and, of course, are Solid State. However, the application of diodes is more limited than transistors. They cannot, for example, *amplify* electrical current (i.e., make it greater). Most commonly, diodes are used to change AC to DC, and to extract information from radio and TV signals. In color television, they are often used to "decode" the color information sent from the television station to the viewer's home.



Integrated Circuits . . .

These tiny circuits evolved from earlier transistor technology. Basically, an integrated circuit (called an "I.C.") starts out as a small silicon wafer. Then, on different areas of the wafer, transistors, diodes, and other parts are formed. An I.C. is not just *one* device, but rather a whole *circuit* of devices and components in a single package. Their applications include amplifiers, automatic fine tuning, and many other circuits.



Ceramic Circuits . . .

Recently, RCA has been researching still another area of Solid State circuitry. In 1970, RCA introduced its own ceramic circuit into one of its television chassis. The RCA ceramic circuit is basically a ceramic wafer upon which resistors plus their interconnecting wiring are formed. Additionally, other components, including transistors and diodes, are also assembled on the ceramic base. Then, the entire wafer and its parts are covered by a protective coating. The RCA ceramic circuits are small and can be replaced easily.

What are the consumer benefits of Solid State Devices?

- small and light in weight
- no filaments or heaters, which means cooler operation, no heater power loss
- no warm-up wait
- rugged because of solid construction
- almost indefinite life

