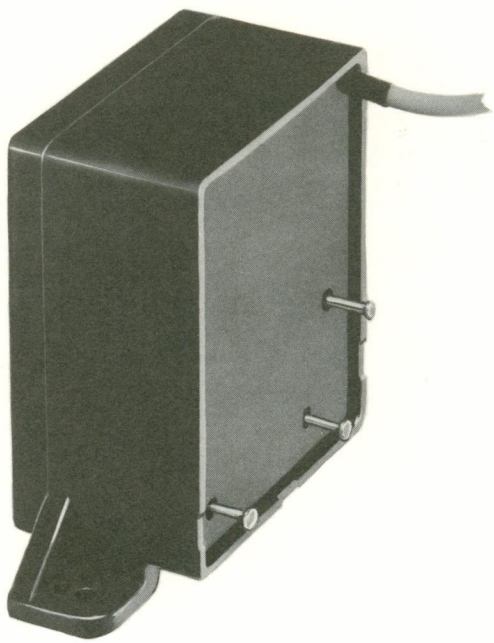
RCA

What is a Quadrupler?

RCA's Quadrupler is used in the Trans Vista 100 Color TV Chassis and is a solid state device that has a number of functions. One of its functions enables RCA to eliminate its last tube and, for the first time, offer a 100% solid state chassis. Located in the television high voltage section, the Quadrupler marks a new level of RCA Color Television reliability.



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RETAIL SALESMAN'S DEVELOPMENT PROGRAM

Here is what ma

ONCE...

only an engineering dream

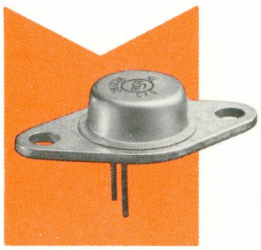
For years, RCA color television engineers have worked toward developing a 100% total Solid State Chassis. Not even one tube to burn out or overheat. The latest in design, performance, and reliability.

NOW...

RCA introduces Trans Vista® "100" Color TV with all Solid State

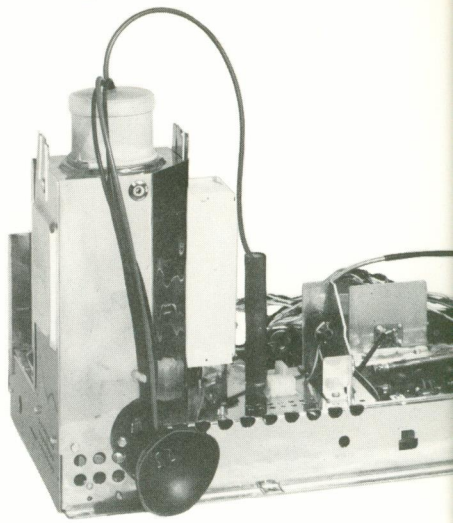
A dream comes true. The last tube, the high voltage rectifier tube, has been eliminated. The Quadrupler, found in the Trans Vista 100 chassis, not only eliminated the final glass tube; but also reduces the electrical stress on the high voltage transformer. This transformer previously had to produce almost all of the high voltage required to operate the picture tube. Now it only has to produce about one-fourth of the voltage requirement. The quadrupler now produces the bulk of the high voltage build-up and thus, the transformer is designed to be more reliable. (Compare illustrations)

The old way of produci

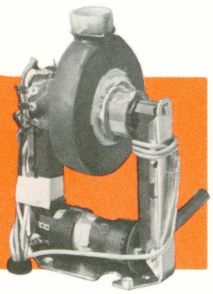


The SCR's provide an initial boost of 400 volts A.C.

The high voltage transformer increases the voltage to 26,500 volts* A.C.



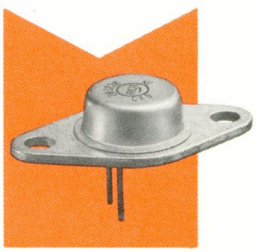
This large A.C. voltage can cause much strain.



A glass rectifier tube changes this 26,500 volts A.C. to 26,500 D.C.

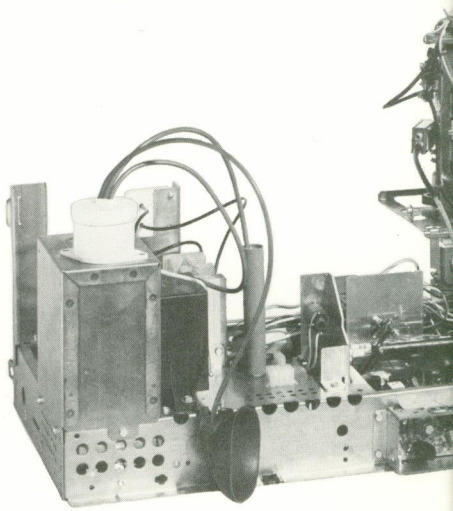
*Design average

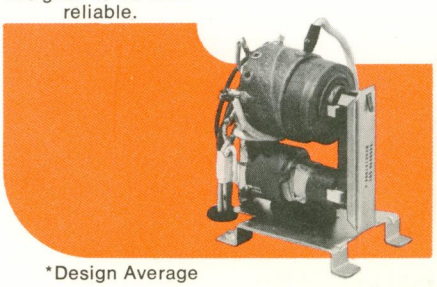
The new way:



The SCR provides the initial volts A.C.

The high voltage transformer increases this to only 7,000 volts A.C., about ¼ of what it had to do above. For this reason we can use a transformer designed to be more reliable.



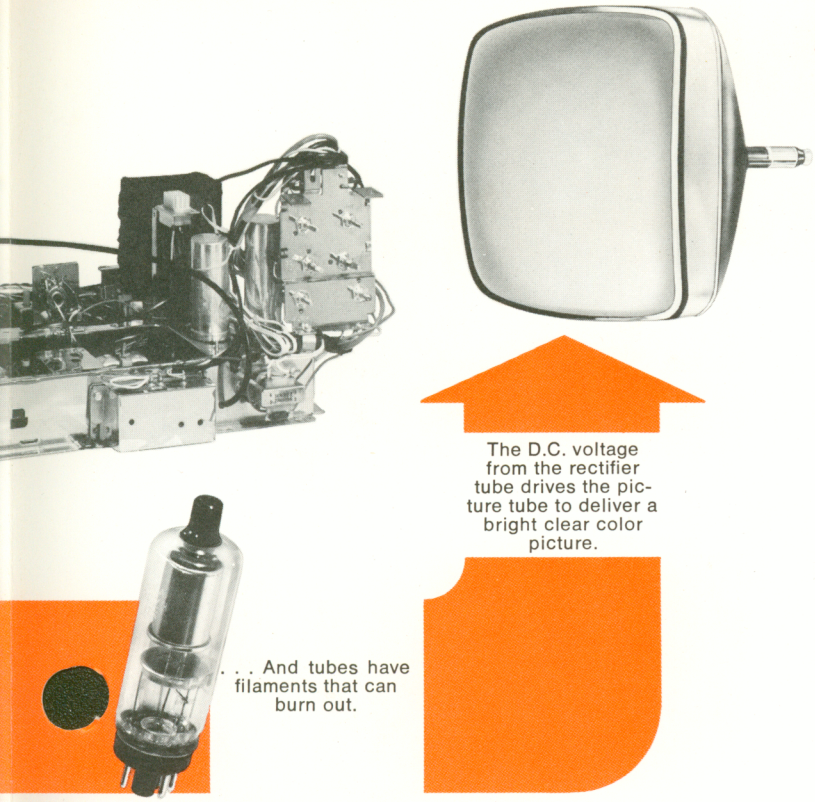


Then the Quadrupler takes this voltage and "multiplies" it up to 26,500 volts D.C.*

*Design Average

akes it so great!

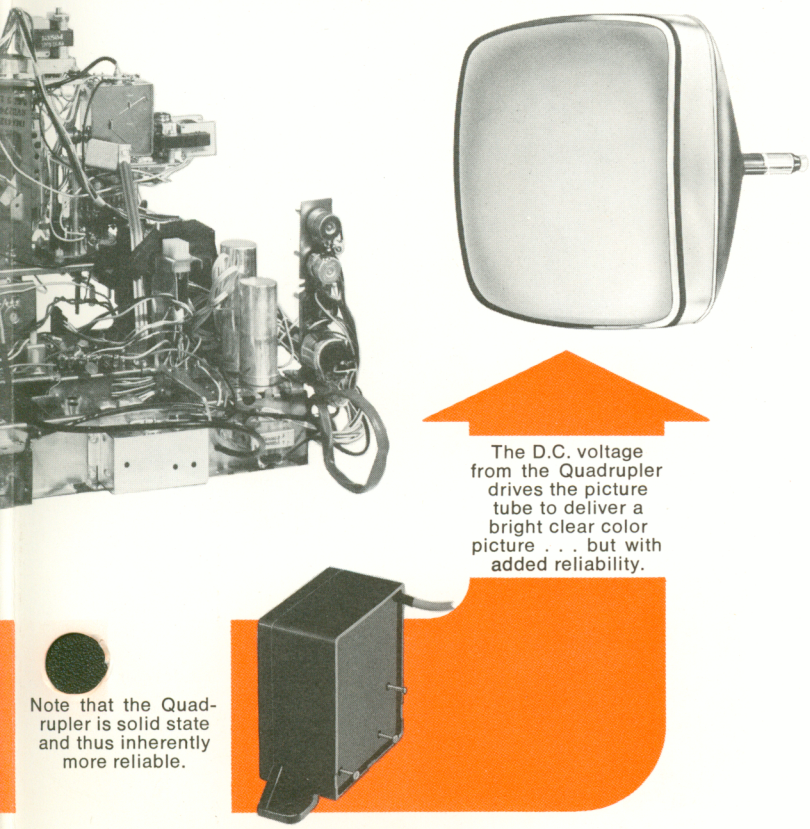
ng high voltage:



The D.C. voltage from the rectifier tube drives the picture tube to deliver a bright clear color picture.

. . . And tubes have filaments that can burn out.

THE RECTIFIER TUBE



The D.C. voltage from the Quadrupler drives the picture tube to deliver a bright clear color picture . . . but with added reliability.

Note that the Quadrupler is solid state and thus inherently more reliable.

THE QUADRUPLER

The Quadrupler contains numerous Active Solid State Devices!

As the illustration to the left shows, the quadrupler eliminates the glass rectifier tube. The operating voltage and current levels associated with the high voltage rectifier tube are responsible for a substantial stress on the tube. This stress can produce arcing which is a major cause of rectifier tube failure. This is a problem you will not have with the Quadrupler.

The Quadrupler is not one *single* solid state equivalent of the glass tube rectifier. It's a circuit comprised of *groups* of components sealed in a solid package. This package is so rugged that to intentionally break it open would require a heavy hammer. Each group of components contains solid state devices. Each of these groups of components is responsible for producing its share of the total high voltage required to operate the picture tube. In this manner, they share the job like a team of horses.

The quadrupler because it is Solid State, has virtually no heat buildup.

In terms of reliability the solid state Quadrupler, comprised of its packaged "team" of solid state circuits, is inherently more reliable.

What are the consumer benefits of the RCA Quadrupler?

COMPONENT RELIABILITY...

there is less chance of transformer breakdown due to voltage stress because the quadrupler now produces most of the high voltage.

Also, now there is no rectifier tube to burn out. The Quadrupler has no glowing filaments, there is virtually no heat build-up.

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