

A PLAN FOR SUCCESS

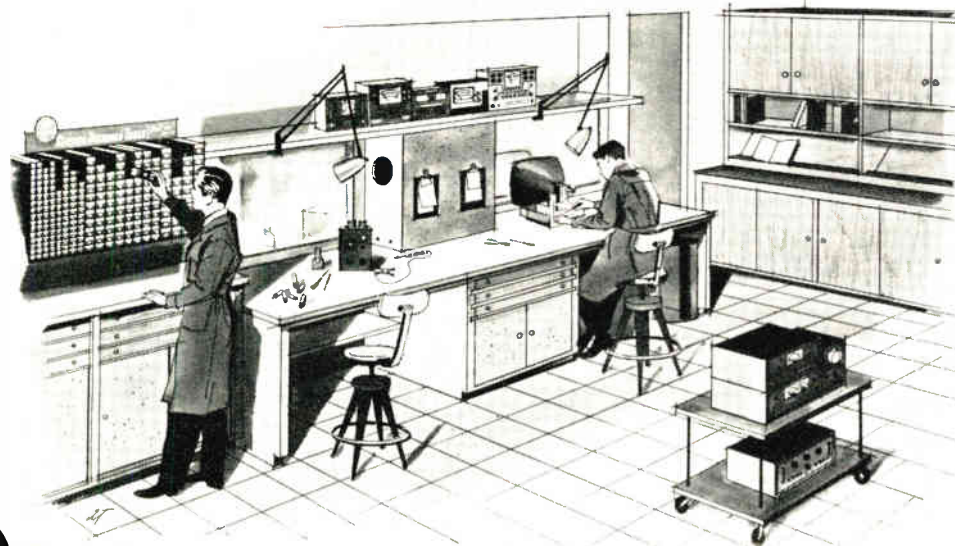


Fig. 1. This TV service work-area is designed for two technicians, each work-bench has many special design features.

General Electric has prepared a set of drawings to help you modernize and plan your TV service shop. The drawings are bound into a planning booklet which is available now from your Authorized G-E Tube Distributor. The objective of this G-E tube program is to help you increase the efficiency of your operation to handle more business at a greater profit.

PROFESSIONALLY DESIGNED

A thorough study was made to determine the requirements of the individual service technician and how his work-time can be made more productive. Also, it was decided that a service shop floor plan be designed for a service operation having two technicians.

Giles van der Bogert, American Institute of Architects, drew on the experience of TV service experts to achieve a plan having efficient work flow, full utilization of floor space, time-saving work units, and adequate test and storage space. The plan is completely flexible—it can be expanded or reduced to meet your individual requirements.

You can adapt all or any part of the plan to your present shop, and build in easy stages over a period of time. The shop units are designed for economic construction using standard building

materials available at your local building supply house. Have the shop units built or do-it-yourself at low cost.

An artist's conception of the work-bench area is shown in Fig. 1. This area is designed to accommodate two technicians and includes two separate work-bench units. However, you can build one unit or ten, depending on your requirements. A standard size mirror is attached to the back wall above each bench to save time in adjusting or repairing TV receivers. A speaker enclosure is provided for each bench. Each enclosure has a built-in TV antenna outlet as well as speaker jacks, and a pegboard front which holds small tools, job tickets or other items. Under each bench is a separate tool compartment.

The eye-level test equipment shelf is designed for instruments other than alignment equipment. Since good monochrome and color alignment equipment is both expensive and bulky, it is felt that this equipment can be used most effectively if placed on a roller cart. In this way, the complete equipment will be available to either technician without taking up valuable bench space when not in use. An a-e outlet strip is installed on the front side of the bench top and at the rear of the eye-level test equip-

ment shelf. Working light for each bench is provided by an overhead fluorescent fixture for general illumination, and a flexible fixture to give a concentrated worklight. A master switch should be installed which will control all lights and equipment on each service bench.

Fig. 2 shows a suggested floor plan for the arrangement of the shop units. As your building will probably be of a different size, it will be simply a matter of adapting the General Electric shop plan to your existing space. If you expect to build a shop in the near future, you can use the G-E shop plans as a guide and incorporate the special features into your own building plans. Your building plans should be drawn up locally to comply with local codes.

DESIGN FEATURES

Notice the many special features in the floor plan. Unfortunately, space does not permit illustrating each one. However, the General Electric plans booklet contains dimension drawings and three-dimensional illustrations of the following specially designed TV service work units:

(1) Counter Sales Area. You can increase profits by encouraging "over-the-counter" service and sales. Sales counter incorporates an illuminated display port to merchandise the products you sell. The counter also has a "garage" for the roller cart when it is not in use. This roller cart is used to transport heavy receivers to and from a customer's auto. You can offer this "sidewalk pickup and delivery TV service" to stimulate business.

(2) Tube Inventory and Small Parts Cabinet. This unit is located between the sales counter and workbench and is easily accessible to both. The tube supply is housed in G-E See-lect-a-tube units which are available through your Authorized G-E Tube Distributor. Small parts are contained in a special cabinet below the tube supply.

(3) Service Bench. This unit is shown in Fig. 1 and has been discussed previously.

(4) Operational-Test and Storage Unit. This unit is located in back of the service benches; it is a sturdy "egg crate" type rack, open on both sides. The unit is made up of ports which will accommodate large color sets as well as the smallest portables. Intermittent receivers can be operated while in a port and checked periodically by looking into

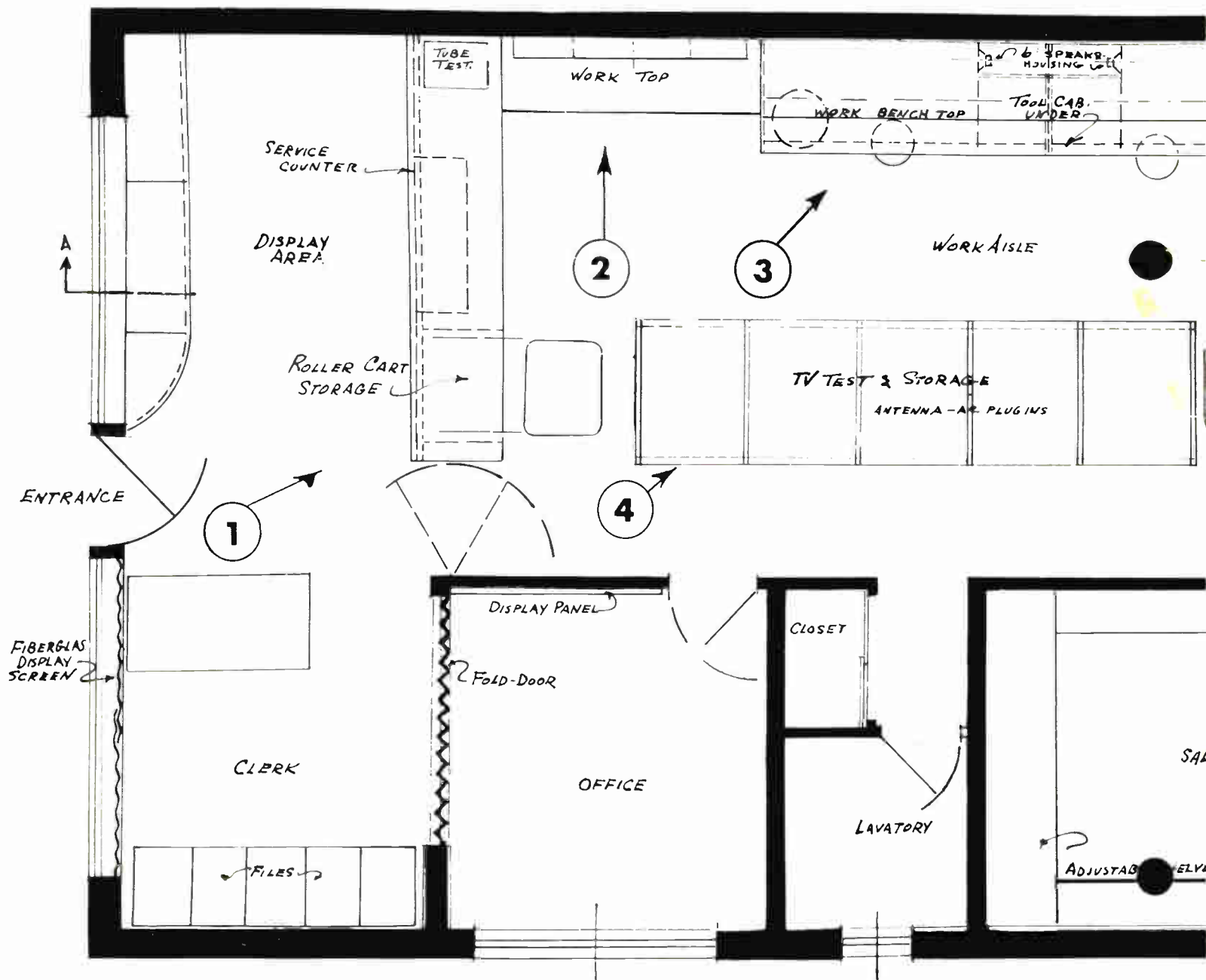
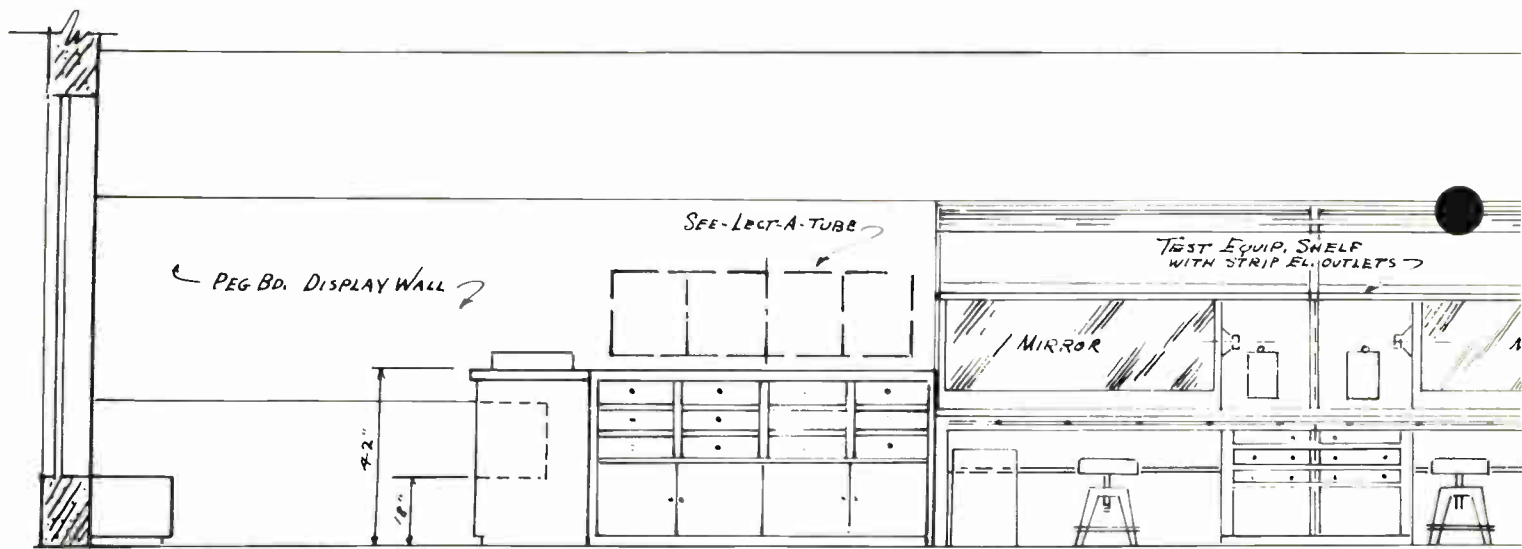
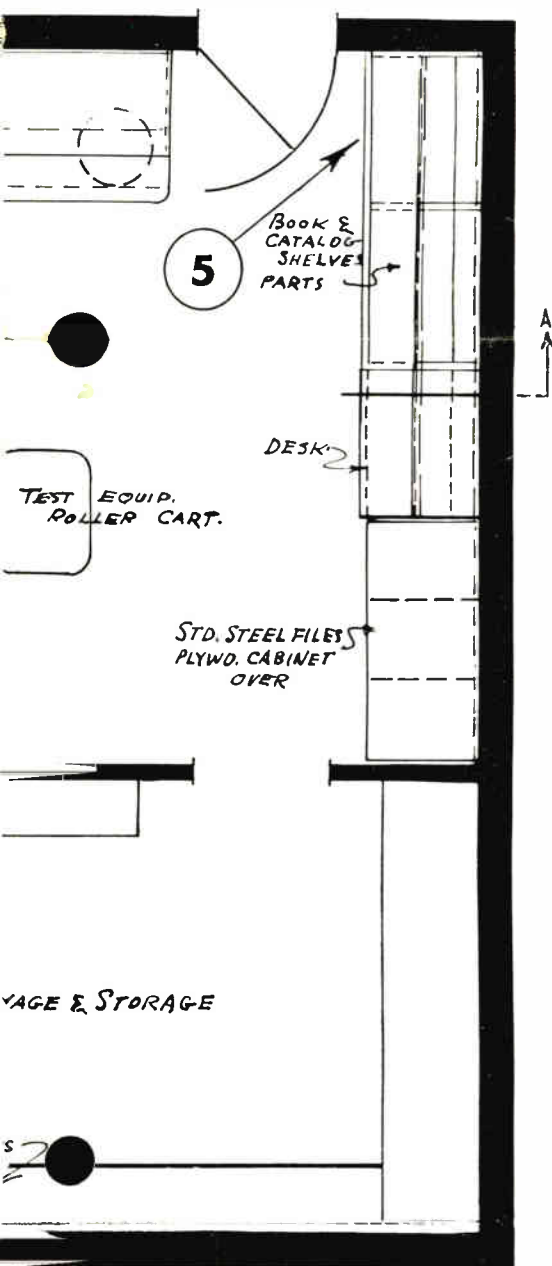
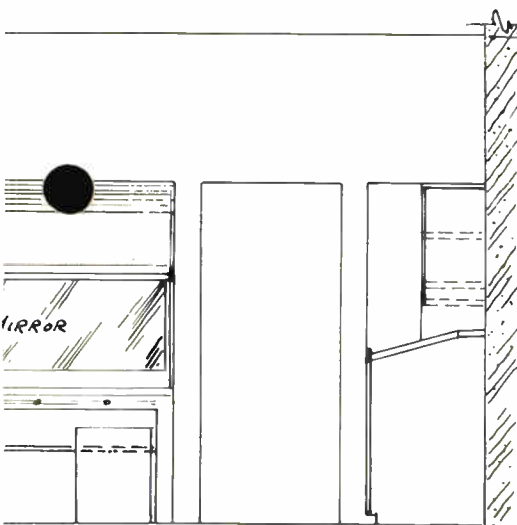


Fig. 2. The floor plan for a service shop having two technicians features full utilization of floor space, efficient work flow, time saving work units, and



adequate test and storage space.

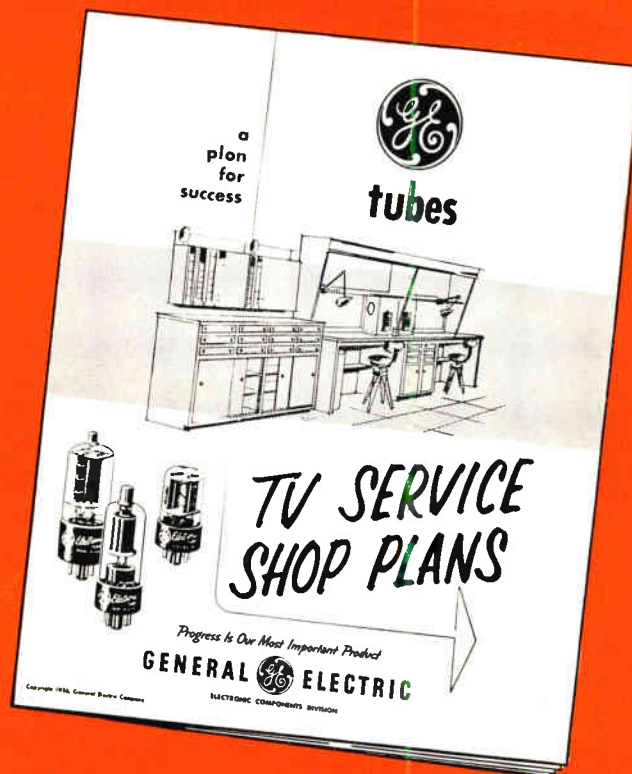


Fig. 3. General Electric TV Service Shop Plans booklet available now through your Authorized G-E Tube Distributor.

the service bench mirror. Repaired receivers should always be given a pre-delivery test for a few hours. This test and storage unit will provide adequate space for as many as 30 receivers without tying up bench space.

(5) Technical Data and Records Unit. The area at the back of the service shop is reserved for various record and reference material. There are three units which are used for this material as shown in Fig. 2. This first section is a TV reference shelf and parts cabinet. Space is provided for two rows of reference manuals, such as Rider's or Sam's. Two lighted shelves, slanted to hold open manuals, are provided. The second section is a work desk with telephone where jobs can be checked both in and out. Phone calls regarding technical questions can be answered by one of the bench technicians. The third section in this unit is a group of standard file cabinets. These cabinets can be used to hold Sam's Photofact folders or any other information suitable for this type of file.

FLOOR PLAN FLEXIBILITY

There are two areas in the floor plan which will naturally be determined by your store and the space available.

The display area and the type of merchandise displayed will depend on the nature of your business. For instance, the dealer who is also a retail set dealer will decorate his window and counter

with one type of sales promotion material; and the dealer who specializes in service only will use entirely different promotion material.

The area at the lower left hand corner of the floor plan is allocated to a sales clerk. This person also answers the phone and schedules service calls. The adjacent office is for the owner or manager, depending on the type of operation. Adequate space is available for two desks in the office, if additional personnel is necessary.

Since the space provided for the sales clerk is not divided by any permanent partition, it may be used to extend the display area, in which case the sales clerk occupies part of the office area. If the office space is not used as previously mentioned, it can be sound-proofed and used as a TV, radio or hi-fi display room. Obviously, it can also be used to display any of the other products you sell.

The storage area indicated in Fig. 2 is adequate for this size shop. Adjustable shelves are recommended so that the space can be adapted to any storage requirements for masts, antennas, picture tubes, etc.

The General Electric Shop Plans booklet includes a planning page to help you incorporate the timesaving ideas and special features of the shop plans into your own personal "blueprint" to handle more service business at a greater profit. Ask your G-E Tube Distributor for your copy of General Electric's "TV Service Shop Plans" today.

BENCH NOTES

Contributions to this column are solicited. For each question, short-cut or chronic-trouble note selected for publication, you will receive \$10.00 worth of electronic tubes. In the event of duplicate or similar items, selection will be made by the editor and his decision will be final. The Company shall have the right without obligation beyond the above to publish and use any suggestion submitted to this column. Send contributions to The Editor, Techni-talk, Tube Department, General Electric Company, Schenectady 5, New York.

COLD SOLDER JOINT

A General Electric Model 21T018 came into our service department with a complaint of insufficient height. This set uses a 6BL7 as both vertical oscillator and output tube. Another serviceman had already replaced this tube. The customer said that the new tube helped some. We tried several 6BL7's, but none improved the height any. We then pulled the chassis and checked the vertical output and blocking transformers. Both were all right. Next we checked the resistors, condensers and controls in the vertical circuit. All were within tolerance. Then we decided to reassemble the chassis and measure a few voltages. We noticed that it took an extremely long period for the set to warm up. Upon checking the filament voltage we discovered we only had about 3.5 volts. Then upon checking very closely we found the filament portion of the power transformer was very poorly grounded. Resoldering the lead to ground cured the trouble.

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Draughn Radio & TV Service
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Garrett, Kentucky

DEMAGNETIZER

I have found that in working on television chassis many of my tools acquire unwanted magnetism. A quick method for removing this magnetism is to insert the tool through the loop of a soldering gun and pull the trigger while slowly withdrawing the tool.

Joseph P. Lucey
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Castleton-on-Hudson, N. Y.

VERTICAL TV CHASSIS

Tubes in vertical TV sets should be tested in their operating position, that is, by setting the tube tester vertically when testing. It's always a good service practice to make tests under operating conditions and this same principle applies to tubes. It seems that occasionally a tube will have enough "sag" in the elements to cause a short when it is operated in a horizontal position, as in a vertical TV, yet will check perfectly OK when the tube tester is placed in its usual horizontal position. Having experienced this myself and having heard of other similar cases, I find it good practice: "Vertical TV, vertical tester."

Albert Pratt
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Milwaukee 17, Wisconsin

PICKUP STICKS

Don't throw away those used "Popcicle" sticks, they can be used as probes and make good cement sticks. The next time a piece of solder or screw falls inside a chassis you're working on, try a piece of scotch tape wrapped around one of these sticks (sticky side out) to retrieve these little trouble makers.

Louis Kiefer
3122 Terry
Philadelphia, Pa.

PROBE LIGHT

A handy probe light can easily be added to a pencil soldering iron holder. Solder a small stub of No. 12 copper wire to the base contact of a candelabra screw base 110V bulb, screw this into the holder and you have a well-insulated handy probe light holder.

It can also be used with neon bulbs of above size for RF probe.

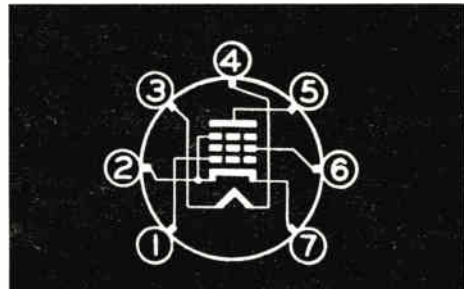
John P. Bolmar
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Willow Grove 5, Pa.

What's new!

6CE5/6BC5 PENTODE

The 6CE5/6BC5 is a miniature sharp-cutoff pentode designed for use as a wide-band, radio-frequency amplifier in television receivers. Features of the tube include high transconductance and low interelectrode capacitance. The 6CE5/6BC5 also exhibits a controlled heater warm-up characteristic which makes it especially suited for use in television receivers that employ series-connected heaters.

Heater Voltage, AC or DC. 3.15 4.2 6.3 Volts
Heater Current. 0.6 0.45 0.3 Amperes
Heater Warm-up Time. 11 11 11 Seconds



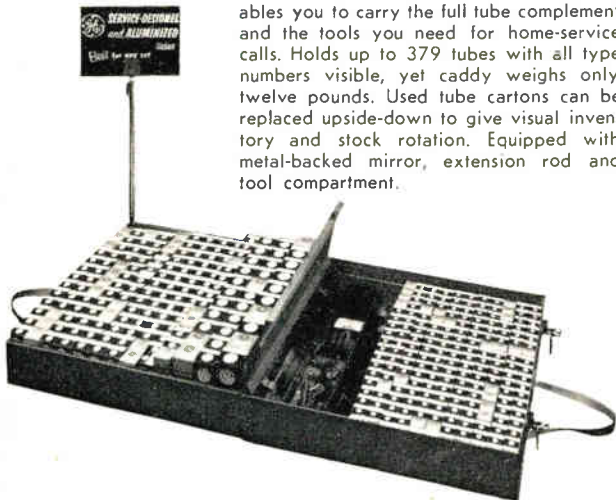
CHARACTERISTICS AND TYPICAL OPERATION

CLASS A₁ AMPLIFIER

Plate Voltage. 125 Volts
Screen Voltage. 125 Volts
Grid-Number 1 Supply Voltage. —1.0 Volts
Grid-Number 1 Resistor (bypassed). 1.0 Megohms
Plate Resistance, approximate. 0.3 Megohms
Transconductance. 7600 Micromhos
Plate Current. 11 Milliampere
Screen Current. 2.8 Milliampere
Grid-Number 1 Voltage, approximate
 $I_{b1} = 35$ Microampere. —5.0 Volts

NEW G-E TV SERVICE CASE

Save trips! Save time! This new design enables you to carry the full tube complement and the tools you need for home-service calls. Holds up to 379 tubes with all type numbers visible, yet caddy weighs only twelve pounds. Used tube cartons can be replaced upside-down to give visual inventory and stock rotation. Equipped with metal-backed mirror, extension rod and tool compartment.



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TUBE DEPARTMENT
GENERAL ELECTRIC
Schenectady 5, N. Y.

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