



By DAVID T. ARMSTRONG

INSTALLATIONS

The author explains techniques of successful custom-built television installations

THERE is a great deal of custom building to be done in all sections of the country, but few people know where or to whom to go to get the information they need. The service technician who wants his share of this business should go in for subtle,

suggestive selling using high-class, direct-mail techniques to reach those people who have the means to finance, and the interest in TV to desire, a custom installation.

The author's recommendation that custom building be an adjunct to a

service business is made for two reasons: first, not enough of it is likely to come your way to warrant going into it full time at the start; and, second—at the beginning anyway—you can hardly handle more than one job a month satisfactorily. The rewards are enticing enough to make one good custom installation per month sufficiently profitable to keep you going. Take it easy and build your business slowly, surely, and successfully.

Last month we had an over-all view of custom installations. In this issue we are going to follow a single installation step-by-step to give you some idea of the problems you are likely to meet.

The drawing of Fig. 1 sold this job. The room was small, 8 x 10, and was used as a den. There was a door on the extreme right and one on the extreme left. The door on the left led to the basement; the stairwell was behind the TV installation. That meant leaving that wall alone but it did solve the ventilation problem nicely.

As you can see from the sketch, the TV installation is relatively simple, but the cabinet work is extensive and expensive. During the first call on Mr. Prospect, he decided where the TV would be and what he would like done with the remainder of the blank wall. He indicated he wanted a desk with some pigeonholes for letters and some drawers on either side of the desk, plus some shelving for books.

To be a good salesman, you must swallow your own preferences. Personally, I think the pigeonholes for letters and knick-knacks a little corny, but that was one of the most appealing features of the sketch for Mr. Prospect. We gave him drawers on the left side

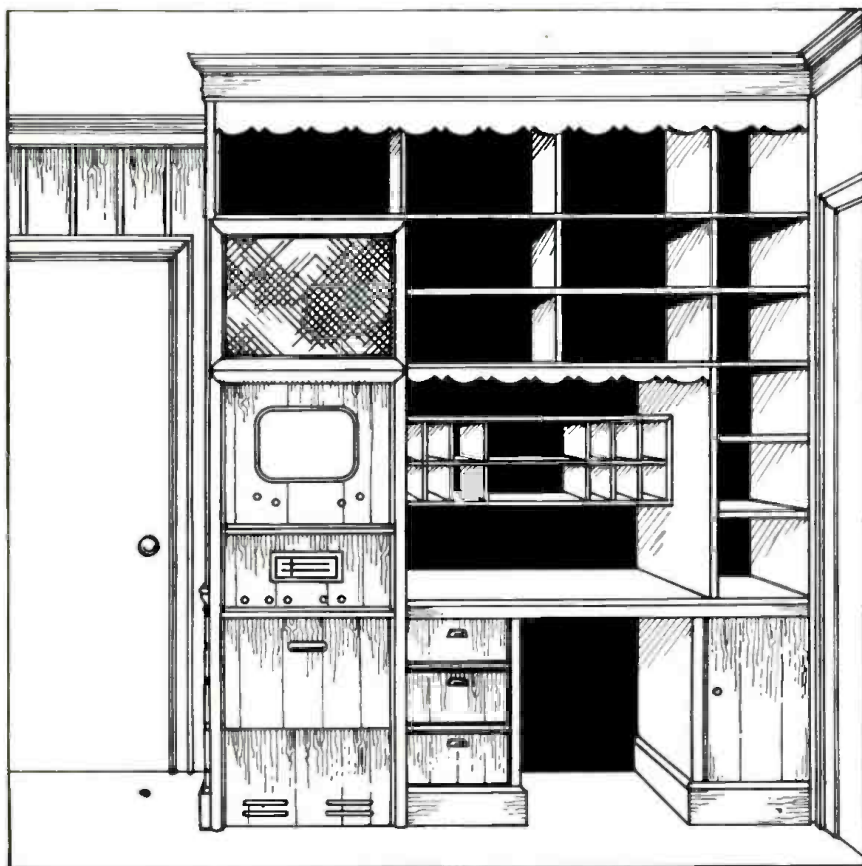


Fig. 1—Drawings like this one help to sell the installation to your prospect.

and a cabinet on the right. In making the drawing we made an additional sketch of three drawers for the right side similar to the three on the left and pinned them over the storage cabinet shown. The monotony of the design at once convinced the family that it was better as we had it originally.

Here is another point. The depth of the shelves for books is 20 inches, making it possible to use the back part of the shelves for dead storage of infrequently used books and the front part for the currently consulted ones. However, the possibilities of such shelving are infinite. We asked if he had much liquor storage space, suggesting we make false partitions just behind a row of books and put in removable panels behind which liquor could be stored. But he wasn't much of a drinking man, and that was out. A little safe could be put back there and few people would suspect it. Other possibilities will occur to fertile minds; have the courage to use them.

Drawings are important

It is hard to overemphasize the selling effect of good drawings. Fig. 1 required about one hour to complete. Of course it was done by an expert draftsman. Drafting is a profitable skill for those who intend to make some money in this game. It is perhaps the chief stumbling block to many. There are so many separate and different little skills needed to sell and install TV that many little men give up. Perhaps it's just as well; the industry calls for men who can and will take the time to learn what they need to know.

The choice of a wood finish is important. This room was plaster and paint, but we sold the idea of a knotty pine finish for the entire room including the doors. Here the cabinetmaker got more work out of the job than we did; but since he was working for us, the major portion of the profit on the job was ours.

We used to hire a cabinetmaker by the job, but we have since found it profitable to have one permanently on our staff. He is paid a base sum per week whether he works or not and a higher flat rate during the time he is actually working for us. He has his own shop and makes his services, skills, and tools available to us at all times. Sometimes he is busy on a private job of his own and we have to wait a week for his services, but that is not a serious problem. People who are quality-minded and who pay quality prices realize you can't hurry a good craftsman. That is part of why it requires a month to do a job.

Construction procedure

The series of sketches in Figs. 2 and 3 break Fig. 1 down into dimensional detail. Let's consider first the front elevation and the cross-section views of the front elevation. The basic

dimensions shown are absolutely essential for installing the parts—chassis, power supply, speaker, and picture tube. The audio amplifier as the heaviest component belongs at the bottom of the assembly, resting on the floor for best support. The record player is just above the amplifier, built on a trolley arrangement so that it may be slid out for operation. This means that the cabling must be of very flexible wire that will not break.

Note the thimble through the wall at the back of the audio amplifier. This amplifier generates a large amount of heat and so does the power supply. You will recall that the wall behind the TV location was a stairwell, making it convenient to cut through for a ventilation hole. The stairwell side of the thimble is covered with a perforated metal grill.

Ventilation is necessary

Ventilation of TV custom installation is extremely important, so much so that RCA will not approve or permit an installation until the specifications show that proper venting is provided. They usually figure that a 40° C or a 72° F rise above ambient temperature is the maximum for safe receiver operation. Assuming that 70° F is the normal room temperature, an additional 72° rise would bring the temperature to 142°, the temperature of domestic hot water, which is more than most hands care to stand. Actual tests have shown that, with proper ventilation, operating temperatures are usually around 90° to 100°.

Note another thimble cut into the wall behind the picture tube and the 4-inch open spaces along the rear wall



Photo courtesy Allan Du Mont Labs., Inc. A receiver like this is easy to install and finish to the customer's specifications.

to permit hot air to flow easily out of the upper thimble. In other types of installations some provision is made

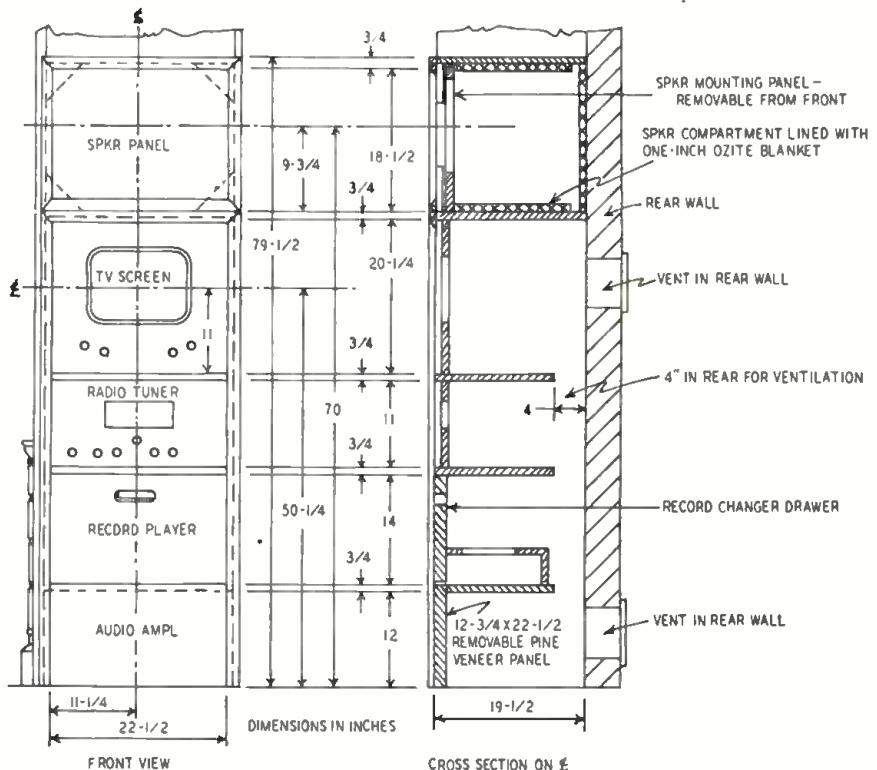


Fig. 2—A front-panel view and cross-section of the installation in Fig. 1.

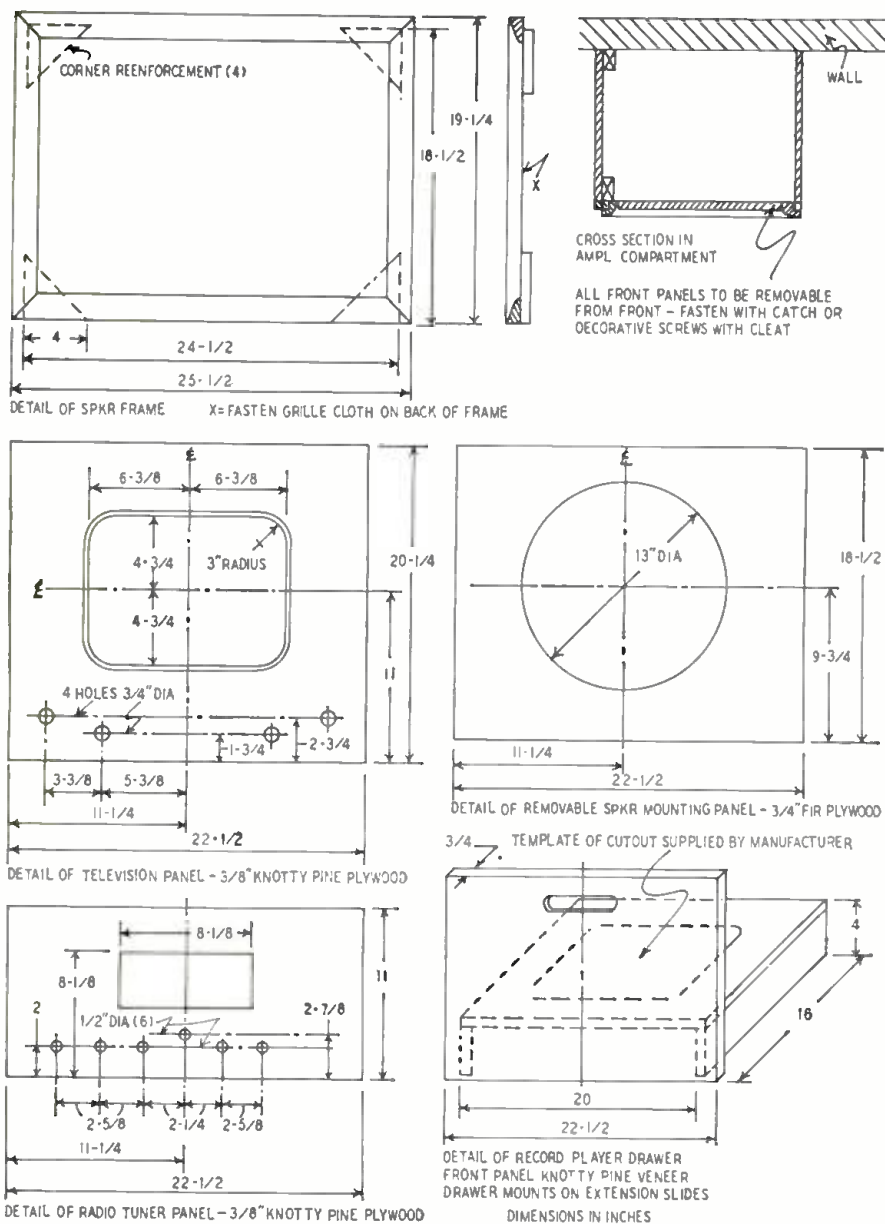


Fig. 3—Details of the panels on the individual compartments. The over-all dimensions and the positions of the holes will vary with different chassis sizes.

for openings in the paneling at the base of the unit; the grill work around the speaker provides the upper opening. So great is the chimney effect that a thin paper streamer held against the upper opening will blow out like a flag. When that happens, you are getting a good draft and you will have no trouble with overheating. The minimum opening area permissible for ventilation of the entire unit is 64 square inches.

The importance of dissipating heat from the TV installation and chassis is seldom understood. The capacitors and resistors in the front end of a tuner are heat-sensitive, and the stability of the oscillator depends to some extent on dissipating the heat generated in the oscillator and mixer sections.

Installations are flexible

Many variations are possible with the removable panels for the audio amplifier, record player, and speaker. The panels for the tuner, picture tube,

amplifier, and speaker are removed only for servicing; they may be held in place with decorative screws, or just pushed into place and held there with spring-loaded catches. The record player front panel may be a slide which fits into a niche on the right or left side or at the bottom of the reproducer; or it may be the front of a drawer in which the reproducer is located, sliding out on ball-bearing runners. What is done depends on the desires of the prospect and the skill and experience of the cabinetmaker. Spring-loaded catches are wonderful because they make a little mystery of removing the panels, but they require a degree of precision to install that not every cabinetmaker possesses.

The enlarged views of the tuner and the television screen panels indicate the hole layout for the cabinetmaker. The holes are large enough for the control knobs and shafts and permit some tolerance in case they do not line up

precisely with the shafts on the chassis.

The reinforcing corners in the speaker assembly are necessary to prevent the panel from sagging under the weight of the speaker. They are wooden pieces, and all cabinetmakers know how to install them. Cover the sides and back of the speaker compartment with a 1-inch Ozite blanket for sound deadening. Try covering the bottom and top and let the customer decide which sound he finds most pleasing.

The details of the record player in Fig. 3 will vary with the player selected. RCA will supply the installer with a template for the component used. Here the front panel is securely fixed to the record player drawer, and the handle is the slot cut into it near the top.

The installation discussed is only one of many possible types using equipment made by any of a number of manufacturers. It shows the kind of planning needed, the precision and care with which you must work, and the type of selling job involved.

Many custom installations use projection viewing systems. A typical one is made by General Electric. Fig. 4 shows how the optical system works, and, roughly, how the components must be placed. Obviously it requires a somewhat different layout from the direct-view installation.

One of the easiest installation jobs is the Du Mont unit shown in the photograph. It is shipped in the plywood case just as you see it, ready to work. All you have to do is make a place for it and finish off the front with paneling. While the installation is simplified, it takes a good bit of space and lacks the distinctiveness of an individually planned job for a specific location.

While I have no special preference for any one manufacturer, I have received much help and advice from the Consumer Custom Products Department of RCA in New York. If you make an RCA installation, you will have to have them OK your plans anyway before they will sell you the equipment.

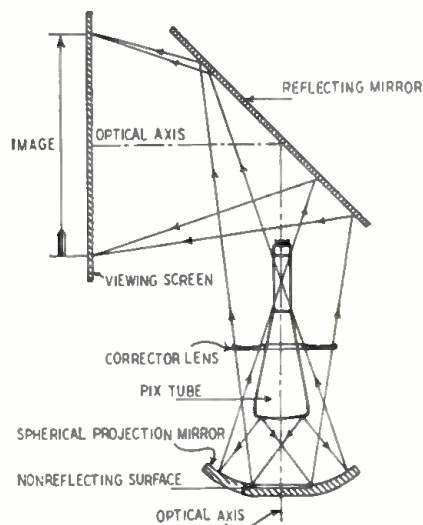


Fig. 4—A typical TV projection system.