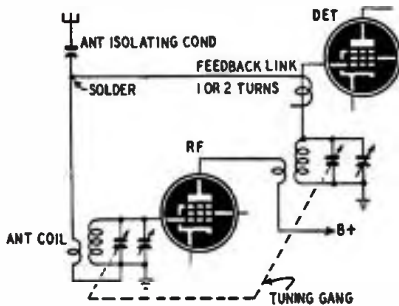


## SELECTIVITY IMPROVEMENT

Many of the old-style t.r.f. midsets are not very selective where there are strong local stations.

I wanted to hear a station on 590 kc, and there was a strong station nearby on 610 kc. The drawing shows the modification I made.



The end of a piece of insulated wire connected to the top of the antenna coil was wound around the grid lead of the next stage (the detector in my receiver), making the set regenerate. The number of turns—that is, the coupling—must be adjusted so that the set is always just below the oscillation point all over the dial when the volume control is turned up. The entire receiver was realigned.

The improvement in selectivity was ample, and sensitivity was increased.

WILLIAM JOYCE,  
Derry, N. H.

## SMALL CAPACITORS

When small capacitors are needed for experimental purposes, use radio tubes. The tube handbook supplies data concerning the interelectrode capacitance of each tube.

Use very short connecting leads to avoid adding extra capacitance. Other elements of the tube, of course, should not be connected to anything, nor can sockets be used.

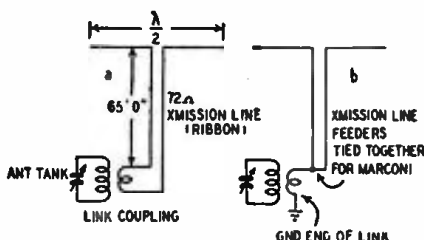
For v.h.f. and u.h.f. work, acorn and miniature tubes are best because they have smaller residual inductances.

HAROLD PALLATZ,  
Brooklyn, N. Y.

## TWO-BAND ANTENNA

The 20-meter half-wave dipole shown in a is a very good standard transmitting antenna. However, it is useless as a dipole on 40 meters. It can be used on 40 meters, however, by converting it into a Marconi, as shown at b. Tie the ends of the transmission line together and connect them to one end of the link. Ground the other end.

VADI GENNIS,  
Cleveland, Ohio



## USES FOR MASKING TAPE

A roll of masking tape is very handy in the service shop. Here are some possible uses:

When replacing a speaker cone, it may be difficult to clean out the air gap. Insert a piece of tape and move it around until all the dirt has stuck to the gummed side.

When moving record players and changers, fasten the pickup arm down with a strip of tape.

Use the tape to fasten repair bills and job cards to receivers. The tape will stick but the adhesive will not mar the cabinet.

Cables can be "laced" with masking tape and small parts can be fastened together with it. Where voltages are not high, it will serve as insulation.

When restringing a dial cord, use pieces of tape to keep the string from slipping off the pulleys until the job is done.

ALAN MCFARLANE,  
Aberdeen, S. D.

## REMOVING CONTROL KNOBS

When a control knob is hard to remove from its shaft, don't pry it off with a screwdriver, as this is likely to ruin the cabinet and break the edge of the knob. Wind a piece of heavy cord or thin rope once around the shaft in back of the knob, then pull the ends of the cord outward. The knob will come off without damage.

D. SRINIVASA RAO,  
Madras, India

## SHORTED TUNING CAPACITORS

One way to locate and remove shorts from a tuning capacitor is to disconnect all leads from the "high" side of the capacitor and insert it in the circuit



shown. If filings are shorting the plates, sparks will be seen when the shaft is rotated. The shorts can often be removed by continuing to rotate the capacitor until no more sparks are seen.

JOHN W. TURNER,  
Newark, N. J.

## SURPLUS MICROPHONES

Surplus T-17 microphones will reproduce speech more clearly if additional small holes are drilled in the cap covering the diaphragm. Be sure to remove the cover before drilling it to avoid damaging the diaphragm. Further improvement can be made by carefully removing the cloth protective cover from the diaphragm and removing the capacitor connected across the mike on the rear. Talk across the face of the mike rather than right into it.

L. E. KLINGBERG,  
Inglewood, Calif.

## TRACING PAPER CHECKS CIRCUIT

When building an electronic device from a circuit diagram, lay a sheet of thin tracing paper over the diagram. As each part and wire is connected, trace the corresponding portion of the diagram with a pencil. When the last wire has been soldered in place, the completed tracing will tell the builder so. When this or a similar method is not used, it is very easy to forget some connection.

HOWARD A. MILLER, W2WLZ,  
Rochester, N. Y.

## TINNING AN IRON

When you buy a new iron (or clean an old one), remove the tip, heat it with a blowtorch to the temperature required for melting silver solder, and flow silver solder all over the tip, practically plating it. When the tip is cool, put it back in the iron. It should never require tinning, fluxing, or filing, since temperatures ordinarily needed for soldering will not melt the silver solder.

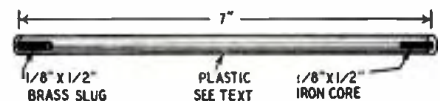
VADI GENNIS,  
Cleveland, Ohio

## V.H.F. TUNING WAND

The old tuning wand used on broadcast receivers is no longer particularly useful because of the iron cores in many r.f. coils. A modified type of wand, however, is very handy for testing v.h.f. circuits. This one is intended for the 2-meter amateur band.

Use a phenolic or polystyrene rod 7 inches long and at least 1/4 inch in diameter. Drill 1/8-inch-diameter holes in each end, each hole being 1/2 inch deep. Into one hole, force a 1/2-inch length of 1/8-inch-diameter powdered-iron core salvaged from an old i.f. or r.f. coil; into the other hole place a brass slug of the same size.

When you have built a v.h.f. tuned circuit which seems unable to hit resonance, try inserting each end of the wand into the coil. If inserting the iron end resonates the tank, more inductance is needed because the iron adds inductance. If the brass end does the trick,



less inductance is needed because the brass lowers the inductance of the coil. If neither end improves matters, either the circuit is at resonance or it is very far off.

DAVID GNESSIN,  
Columbus, Ohio

## KEEPING SOLDER OFF CHASSIS

To prevent solder from sticking to a chassis while making a joint on a tube-socket lug, rub the chassis with the end of a small candle. Any solder that falls will not stick to the waxed metal.

GEORGE WECHSLER,  
Brooklyn, N. Y.