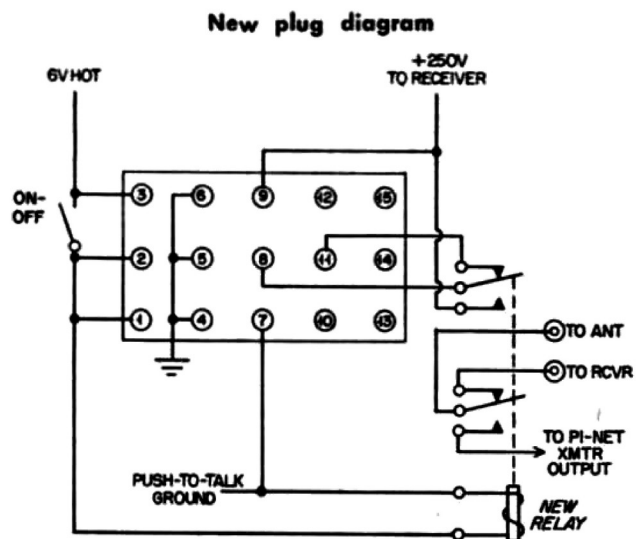


Modifications



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Bias Batteries in transmitters are a source of trouble and extra cost, and should be eliminated. Class AB1 modulators draw high static plate current as compared to Class B modulators. Therefore, in modifying my Elmac AF-67, it was decided that better performance could be obtained by discarding the battery and using Class B Modulation. Another desirable feature is the built-in send/receive relay.

Class B Modulation

To convert the AF-67 to class B modulation, Remove the bias battery and ground the center tap lead from the transformer.

Remove the 5881 tubes and insert two 1635 tubes. Rewire the two sockets V8 and V9 as follows: Pin 1 not used; remove jumper to pin 8. Pin 2 heater, leave as is. Pin 3 plate, leave as is. Pin 4, cut screen grid wire and tape end so that it cannot short out and fold back along cable. Pin 5 now connects to Pin 4 with short jumper. Pin 6 was blank; now connect to Pin 3 with a short jumper. Pin 7 heater, leave as is.

Right: Relay installation

Pin 8 cathode, leave as is. This connects the two triode sections of each tube in parallel. The socket connections for the 1635 tubes now are . . .

- | | |
|-------------|-------------|
| 1. Not used | 5. Grid #2 |
| 2. Heater | 6. Plate #2 |
| 3. Plate #1 | 7. Heater |
| 4. Grid #1 | 8. Cathode |

Now indicate these changes in your instruction book.

Installing the Relay

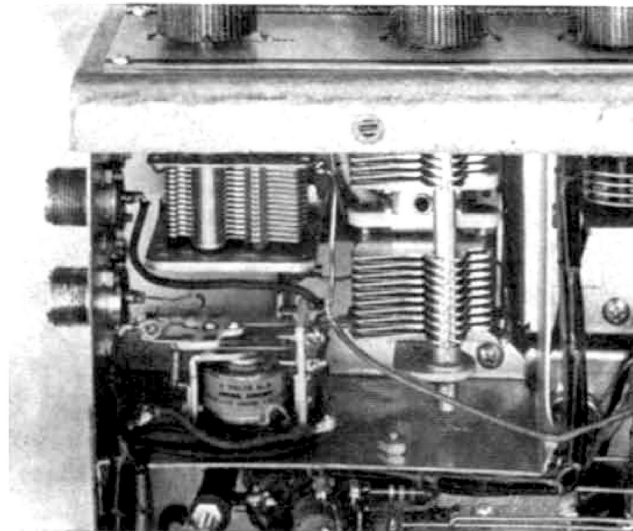
Remove the chassis from the cabinet and work on the unit where it is convenient to drill some holes and make the soldered connections. Lay the chassis on some cloth material to protect against scratching.

Remove the antenna wire from the original co-ax connector and loading condenser. (Later, this wire will connect to the movable arm of the relay nearest to the top of the chassis and to the opposite side of the loading condenser stator.)

Drill a new hole to the front side of the original co-ax connector and install a new co-ax connector, Amphenol SO-239.

Mount an Advance type AM/2C/6VD in the position shown in the photograph so that the two movable arms of the relay are nearest

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the two co-ax connectors. Connect one side of the 6 volt coil to terminal #7 on the power-control socket on the rear of the chassis. (*This lead goes to the push-to-talk switch or to a foot operated switch to turn on the relay controlling the transmitter high voltage.*) Connect the other side of the 6 volt coil to terminal #1, 6 volts from the battery. (For 12 volt operation, put in a series resistor to drop the 12 volts to 6 volts in this same lead.) Note that the AF-67 has provisions for operating from either 6 or 12 volts.

Connect the wire that was removed from the original co-ax connector to the normally open-contact of the relay that is nearest the top side of the chassis. The original co-ax chassis connector (to antenna) is now connected to the movable arm of the relay. Form a loop in the wire to make it flexible. Connect a wire from the new co-ax chassis connector to the normally closed-contact of the relay. This feeds the antenna through the relay to the receiver. See diagram and photograph.

The other set of contacts on the relay is used to mute the receiver while transmitting, as well as to provide the AF-67 with 250 volts for the low voltage stages. Connect a wire from the movable arm of the relay to Pin #8 of the power-control socket. (Pin #8 is supplied +250 volts from a receiver power pack or separate power pack through the power cable.)

Connect a wire from the normally open-contact on the relay to Pin #11 of the power-control socket. (Pin 11 supplies the +250 volts to the low voltage stages.) Connect a wire from the normally closed-contact on the relay to Pin 9 of the power-control socket. (Pin 9 supplies the +250 volts to the receiver.)

For purposes of getting more signal from the exciter stages into your receiver, making it possible to read SSB on your receiver or making it easier to zero in on a signal, solder a wire about 6" long from the new co-ax chassis connector (receiver antenna lead) and extend past the baffle shield and make an insulated one turn loop around the bus wire of the 6146 grid tuning condenser.

We highly recommend the use of a light dimmer switch mounted on the floor board near the light dimmer switch of the car as a "push-to-talk" switch. Also a small carbon mike (we use a telephone company 52BW supervisory headset mike) should be mounted on a piece of #8 wire formed so that it will hook around the neck with the mike in front of the mouth. A piece of plastic spaghetti tubing may be slipped over the wire to protect white shirts from becoming soiled.

The time-worn phrase, "Look Ma, no hands" can mean safer driving and a longer, happier life, even while driving in heavy traffic. ■