

REMOTE RADIO OPERATIONS USING MENTOR BASE STATIONS

The Mentor Model MB can be operated remotely, using optional extra equipment. Remote operation is required when the antenna cannot be mounted sufficiently near the operator’s station, so that a long coaxial cable run would be required. Remote control also permits operation of one radio from more than one location.

Not all the controls on a radio may be remotely operated. The minimum remote system allows only a remote speaker with volume control, and a remote microphone. The radio’s on-off, squelch and channel select controls cannot be changed at the remote location. With more complex equipment, it is possible to control all of the radio’s functions, except that for the Model MB, the signal strength meter and the performance indicator lamps cannot be observed at the remote station.

The remote station (which often looks like a telephone with a speaker in place of the dialer) and the radio are connected to each other via wires or cables. There are four ways to do this:

1. A multi-conductor cable or set of wires
2. A “d.c. wire pair”—may be leased from the telephone company
3. An “audio” wire pair—may be leased from the telephone company
4. “Dial up” long distance lines

Except for (1), in addition to the remote station itself a “line termination unit” (also called a “remote adapter”) is also required, mounted near the base station. More than one remote station may be used with a base station.

Method (1) requires running a cable or wires through walls, ceilings, etc. The estimated total equipment cost (next page) includes the remote station and modifications to the base station, but does not include the wire or cable nor the labor cost to install the wires.

For methods (2) and (3), if the wiring is provided by the telephone company (a “dedicated line”), there is a monthly payment to them. The estimated equipment cost includes modifications to the base station, the remote station, and the line termination unit. A “D.C. pair” requires a less expensive termination unit, but is not always available from the phone company, and the distance may be limited to about 10 miles. An “audio pair” needs a more costly line termination unit and remote station, but can be used over much larger distances.

A variety of long distance “dial up” remote systems exist. Some of these require that the aircraft have special microphones with numerical keypads. Others are based on the calling aircraft breaking the squelch on the base station’s receiver. A dedicated phone line is usually not required, and normal long distance toll rates apply when communications between an aircraft and base station occurs.

The accompanying table summarizes these various possibilities for a single remote station. The costs are for a minimum system—channel selection, squelch control are not included. The monthly cost of leased phone lines is not included.