

A.E.CO. TYPE 87A TELEPHONE SET  
MODIFICATION TO ADD N.E.CO. QBX1A BUZZER

1. GENERAL

1.01 This section provides information on the addition of the Northern Electric Company QBX1A buzzer to the A.E.Co. Type 87A three-line telephone instrument. There is often no place in which an external buzzer may be mounted conveniently in such a way as to be audible without being unsightly. Since a standard-sized buzzer cannot be mounted within a Type 87A set when a standard double-gong ringer is used, but a buzzer is often required in conjunction with 87A installations, the QBX1A buzzer has been made available for this purpose.

2. DESCRIPTION OF BUZZER

2.01 The Northern Electric Company QBX1A buzzer (see Figure 1) consists of a 3/4-inch diameter cup core of magnetic iron, staked to a slotted mounting tab and equipped with a washer-type armature which is secured to the core stud with a nylon screw. A phosphor-bronze residual flap is fastened loosely between the armature and core to prevent the armature from freezing in place, and the armature screw may be adjusted to provide some degree of con-



Figure 1. Northern Electric Co. QBX1A Buzzer.

trol over the buzzer sound. A coil wound on a nylon bobbin within the core is equipped with 4-inch, spade-terminated leads and rated at 6 to 20 volts ac. At 10 volts, the operating current is 130 ma. Including the mounting strap and armature assembly, the unit measures 1-7/16" in length and 5/8" in thickness, in addition to its 3/4" diameter.

3. INSTALLATION OF BUZZER

3.01 The mounting location for the QBX1A buzzer is determined by the shortness of its leads, which must reach terminals E1 and E2, or others on the terminal board below the dial. For

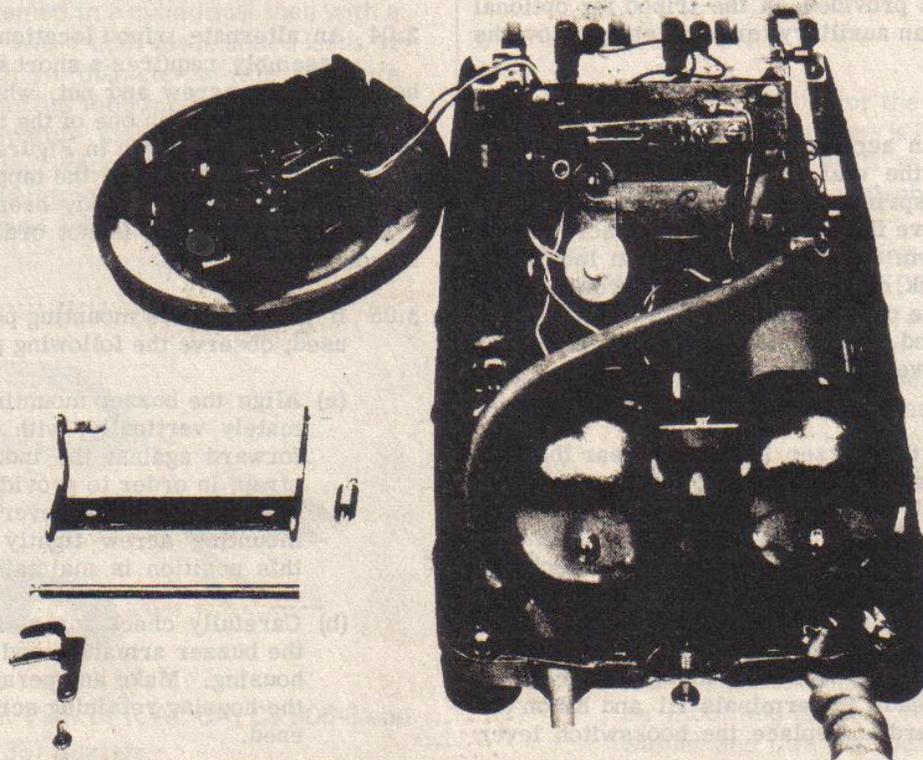


Figure 2. QBX1A Buzzer Mounted on Rear of Tripod.

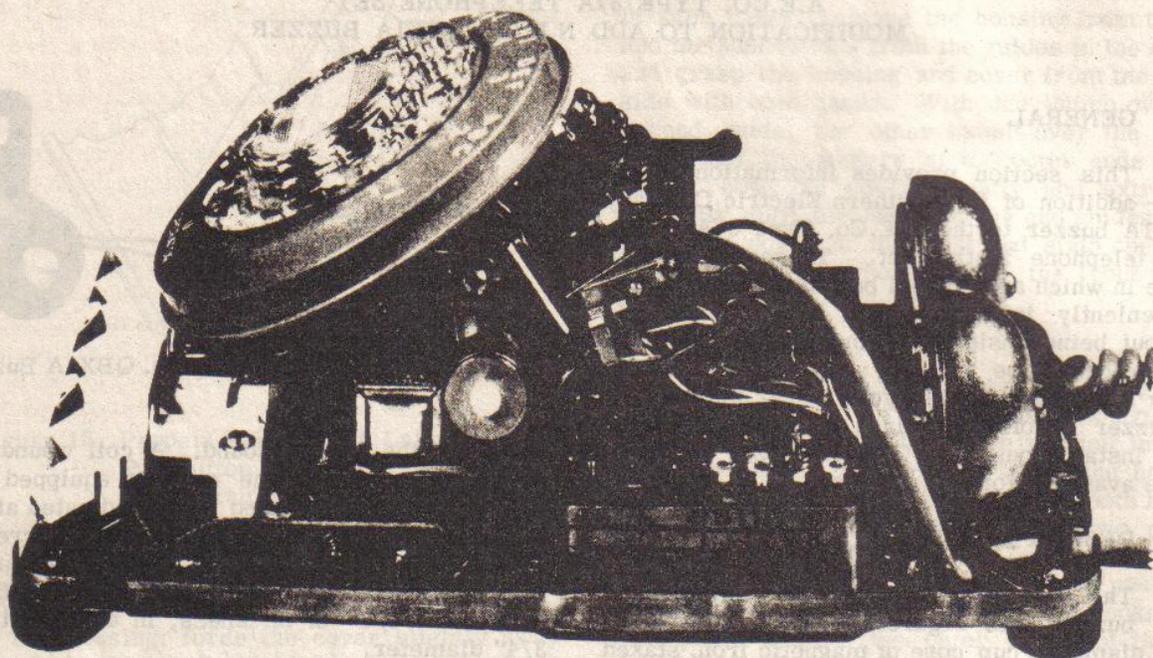


Figure 3. QBX1A Buzzer Mounted on Right Side of Tripod.

this reason, the buzzer must be mounted on the dial tripod. Use a 6-32 x 1/4" round-head machine screw to fasten the buzzer to one of the tapped holes provided on the tripod for optional mounting of an auxiliary terminal strip below the hookswitch.

3.02 To gain access to the mounting hole, remove the dial and the hookswitch lever return coil spring. On the network side of the tripod, remove the 3-48 binding head screw from the guide arm (hookswitch lever pin lock), and slide the lock out of the retaining groove in the pin. From the opposite side, remove the pin from the tripod and hookswitch lever. The lever may now be removed from the set.

3.03 Mount the buzzer in the hole near the network side of the tripod, sliding it as far down toward the network as possible before tightening the screw (see Figure 2). This will usually permit use of the installer's hooklock feature, although this is not important on a Type 87A instrument. Dress the leads from the network carefully under the buzzer mounting tab to avoid interference with the armature, and connect the buzzer leads to terminals E1 and E2 on the terminal board. Replace the hookswitch lever

and associated components in the reverse of the order of their removal, and mount the dial on its tripod.

3.04 An alternate tripod location for the buzzer assembly requires a short #6 or #8 round-head machine screw and nut, which are used to mount the assembly in one of the tooling holes on the right side, as shown in Figure 3. This location will be necessary if the tapped holes below the hookswitch have already been used to mount a terminal strip, but is not ordinarily recommended.

3.05 If the right-side mounting position must be used, observe the following precautions:

- (a) Align the buzzer mounting tab approximately vertically, with the core pulled forward against the inductor mounting strap, in order to provide clearance for the hold release lever. Fasten the mounting screw tightly to insure that this position is maintained in service.
- (b) Carefully check for clearance between the buzzer armature and the instrument housing. Make an operational test with the housing retaining screws fully tightened.